GenCore version 5.1.7

OM protein - protein search, using sw model

Run on: May 5, 2006, 11:21:07 ; Search time 74.25 Seconds
(without alignments)
929.057 Million cell updates/sec

Title: US-10-668-178-3
Perfect score: 814
Sequence: 1 VRSSSRTPSDMPVAHVVANP.....RPDYLDFAESGQVYFGIIAL 157

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 2443163 seqs, 439378781 residues

Total number of hits satisfying chosen parameters: 2443163

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : A_Geneseq_21:*
1: geneseqp1980s:*
2: geneseqp1990s:*
3: geneseqp2000s:*
4: geneseqp2001s:*
5: geneseqp2002s:*
6: geneseqp2003as:*
7: geneseqp2003bs:*
8: geneseqp2004s:*
9: geneseqp2005s:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	814	100.0	157	8	ADH10160	Adh10160 Human tum
2	807	99.1	157	9	AEB45433	Aeb45433 TNF-R1 sp
3	806	99.0	157	9	AEB45432	Aeb45432 TNF-R1 sp
4	805	98.9	157	9	AEB45434	Aeb45434 TNF-R1 sp
5	803	98.6	157	9	AEB45430	Aeb45430 TNF-R1 sp
6	800	98.3	157	9	AEB45453	Aeb45453 TNF-R2 sp
7	799	98.2	157	9	AEB45431	Aeb45431 TNF-R1 sp
8	795	97.7	157	9	AEB45454	Aeb45454 TNF-R2 sp
9	793	97.4	157	9	AEB45469	Aeb45469 TNF-R2 sp
10	792	97.3	157	9	AEB45438	Aeb45438 TNF-R1 sp
11	792	97.3	157	9	AEB45436	Aeb45436 TNF-R1 sp
12	792	97.3	157	9	AEB45461	Aeb45461 TNF-R2 sp
13	791	97.2	157	9	AEB45460	Aeb45460 TNF-R2 sp
14	791	97.2	157	9	AEB45464	Aeb45464 TNF-R2 sp
15	790	97.1	157	9	AEB45472	Aeb45472 TNF-R2 sp
16	790	97.1	157	9	AEB45471	Aeb45471 TNF-R2 sp
17	790	97.1	157	9	AEB45455	Aeb45455 TNF-R2 sp
18	790	97.1	157	9	AEB45466	Aeb45466 TNF-R2 sp
19	790	97.1	157	9	AEB45474	Aeb45474 TNF-R2 sp
20	790	97.1	157	9	AEB45457	Aeb45457 TNF-R2 sp
21	790	97.1	157	9	AEB45475	Aeb45475 TNF-R2 sp
22	789	96.9	157	9	AEB45458	Aeb45458 TNF-R2 sp
23	789	96.9	157	9	AEB45473	Aeb45473 TNF-R2 sp
24	789	96.9	157	9	AEB45467	Aeb45467 TNF-R2 sp
25	789	96.9	157	9	AEB45468	Aeb45468 TNF-R2 sp
26	788	96.8	157	9	AEB45437	Aeb45437 TNF-R1 sp
27	788	96.8	157	9	AEB45462	Aeb45462 TNF-R2 sp
28	788	96.8	157	9	AEB45470	Aeb45470 TNF-R2 sp
29	787	96.7	157	9	AEB45456	Aeb45456 TNF-R2 sp
30	787	96.7	157	9	AEB45459	Aeb45459 TNF-R2 sp
31	787	96.7	157	9	AEB45465	Aeb45465 TNF-R2 sp
32	787	96.7	157	9	AEB45463	Aeb45463 TNF-R2 sp
33	785	96.4	157	9	AEB45429	Aeb45429 TNF-R1 sp
34	784	96.3	157	9	AEB45428	Aeb45428 TNF-R1 sp
35	784	96.3	157	9	AEB45425	Aeb45425 TNF-R1 sp
36	783	96.2	157	9	AEB45421	Aeb45421 Human TNF
37	782	96.1	157	9	AEB45427	Aeb45427 TNF-R1 sp
38	782	96.1	157	9	AEB45423	Aeb45423 Human TNF
39	782	96.1	157	9	AEB45435	Aeb45435 TNF-R1 sp
40	780	95.8	157	2	AAR62465	Aar62465 Tumour ne
41	779	95.7	157	1	AAP60524	Aap60524 Sequence
42	779	95.7	157	1	AAP70095	Aap70095 Tumour ne
43	779	95.7	157	1	AAP70144	Aap70144 Amino aci
44	779	95.7	157	2	AAR14270	Aar14270 Human TNF
45	779	95.7	157	2	AAR14112	Aar14112 Neutrophi

ALIGNMENTS

RESULT 1
ADH10160
ID ADH10160 standard; protein; 157 AA.
XX
AC ADH10160;
XX
DT 11-MAR-2004 (first entry)
XX
DE Human tumour necrosis factor variant protein.
XX
KW TNF; tumour necrosis factor; polyethylene glycol; cytostatic; cancer;
KW human; variant.
XX
OS Homo sapiens.
XX
PN EP1354893-A2.
XX
PD 22-OCT-2003.
XX
PF 30-JAN-2003; 2003EP-00250587.
XX
PR 25-MAR-2002; 2002JP-00083509.
PR 26-JUN-2002; 2002JP-00185387.
XX
PA (HAYB) HAYASHIBARA SEIBUTSU KAGAKU.
PA (MAYU/) MAYUMI T.
PA (TSUT/) TSUTSUMI Y.
PA (NAKA/) NAKAGAWA S.
XX
PI Mayumi T, Tsutsumi Y, Nakagawa S, Ikegami H;
XX
DR WPI; 2004-063952/07.
DR N-PSDB; ADH10169.
XX
PT A physiologically active complex which comprises a protein part with
PT tumor necrosis factor activity and a high molecular part has higher
PT stability and retention in living bodies and is useful to treat disease,
PT particularly cancer.
XX
PS Example 1; SEQ ID NO 3; 18pp; English.
XX
CC The present sequence represents a physiologically active complex which
CC comprises a proteinaceous part with tumour necrosis factor (TNF) activity
CC and a high molecular part bound artificially to the N-terminus of the
CC proteinaceous part. The proteinaceous part comprises the sequence
CC selected from ADH10159 and the molecular part has a molecular weight of
CC 500-5000 Da and is a homopolymer of polyethylene glycol or a copolymer of

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CC   ethylene glycol and its derivatives. The invention is used to treat
CC   susceptive disease, particularly cancer. The complex has a higher
CC   stability and longer retention time in living bodies than intact tumour
CC   necrosis factor. The present sequence represents a human TNF variant
CC   protein.
XX
SQ   Sequence 157 AA;

  Query Match             100.0%;  Score 814;  DB 8;  Length 157;
  Best Local Similarity   100.0%;  Pred. No. 9.6e-76;
  Matches  157;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              |||||||||||||||||||||||||||||||||||||
Db        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 2
AEB45433
ID   AEB45433 standard; protein; 157 AA.
XX
AC   AEB45433;
XX
DT   22-SEP-2005  (first entry)
XX
DE   TNF-R1 specific human TNF-alpha mutant protein, SEQ ID No:17.
XX
KW   tumor necrosis factor-alpha; TNF-alpha; TNF inhibitor; inflammation;
KW   autoimmune disease; tumor; transplant rejection; cardiovascular disease;
KW   acquired immune deficiency syndrome; severe acute respiratory syndrome;
KW   plasmodium infection; meningitis; hepatitis; Alzheimers disease;
KW   antiinflammatory; cytostatic; antirheumatic; antiarthritic; antiallergic;
KW   antipsoriatic; anti-HIV; antiarteriosclerotic; immunosuppressive;
KW   vasotropic; cerebroprotective; dermatological; immunomodulator;
KW   antimalarial; antibacterial; hepatotropic; neuroprotective; nootropic;
KW   mutein.
XX
OS   Homo sapiens.
OS   Synthetic.
XX
PN   WO2005066206-A1.
XX
PD   21-JUL-2005.
XX
PF   05-JAN-2005; 2005WO-JP000032.
XX
PR   06-JAN-2004; 2004JP-00001427.
XX
PA   (HAYB ) HAYASHIBARA SEIBUTSU KAGAKU.
PA   (MAYU/) MAYUMI T.
PA   (TSUT/) TSUTSUMI Y.
PA   (NAKA/) NAKAGAWA S.
XX
PI   Mayumi T,  Tsutsumi Y,  Nakagawa S,  Ohta T;
XX
DR   WPI; 2005-506850/51.
DR   N-PSDB; AEB45447.
XX
PT   Novel tumor necrosis factor TNF mutant protein, useful for treating
PT   and/or preventing diseases such as inflammation, and other diseases
PT   caused by overexpression of TNF, such as autoimmune diseases, tumor,
PT   rheumatoid arthritis, allergy.
XX
PS   Claim 4; SEQ ID NO 17; 34pp; Japanese.
XX
CC   The invention relates to tumor necrosis factor (TNF) mutant proteins,
CC   particularly tumor necrosis factor mutant proteins specific for TNF-R1 or
CC   TNF-R2 (SEQ ID Nos 19-22 and 37-59 respectively). The invention discloses
CC   a TNF mutant protein comprising an amino acid sequence derived from the
CC   human TNF-alpha protein (given as SEQ ID No: 1) by the substitution of
CC   one or more amino acid residues at 29, 31, 32, 145, 146 and 147 from the
CC   N-terminus, and amino acid residues at positions 84-89 by other amino
CC   acid residue(s). Also described are: (1) a TNF inhibitor comprising a TNF
CC   mutant protein; and (2) a TNF formulation comprising a TNF mutant
CC   protein. The TNF mutant proteins are useful for treating and/or
CC   preventing diseases such as inflammation, and other diseases caused by
CC   overexpression of TNF, such as autoimmune diseases, tumors (e.g. colon
CC   cancer, rectal cancer, uterine cancer, brain tumor, leukemia, lymphoma),
CC   Crohn's disease, rheumatoid arthritis, allergies, psoriasis, cachexia,
CC   transplant rejection, stroke, ischemia, restenosis, AIDS, severe acute
CC   respiratory syndrome (SARS), atherosclerosis, Behcet's disease, systemic
CC   lupus erythematosus, malaria, meningitis, hepatitis, Alzheimer's disease,
CC   etc. The TNF mutant proteins are highly stable in vivo. This sequence
CC   represents a human TNF-alpha mutant protein specific for TNF-R1. Note:
CC   The sequence data for this patent did not form part of the printed
CC   specification, but was obtained in electronic format directly from WIPO
CC   at ftp.wipo.int/pub/published_pct_sequences.
XX
SQ   Sequence 157 AA;

  Query Match             99.1%;  Score 807;  DB 9;  Length 157;
  Best Local Similarity   98.7%;  Pred. No. 5.1e-75;
  Matches  155;  Conservative    1;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              |||||||||||||||||||||||: |||||||||
Db        121 GGVFQLEPGDRLSAEINRPDYLDFADDGQVYFGIIAL 157


RESULT 3
AEB45432
ID   AEB45432 standard; protein; 157 AA.
XX
AC   AEB45432;
XX
DT   22-SEP-2005  (first entry)
XX
DE   TNF-R1 specific human TNF-alpha mutant protein, SEQ ID No:16.
XX
KW   tumor necrosis factor-alpha; TNF-alpha; TNF inhibitor; inflammation;
KW   autoimmune disease; tumor; transplant rejection; cardiovascular disease;
KW   acquired immune deficiency syndrome; severe acute respiratory syndrome;
KW   plasmodium infection; meningitis; hepatitis; Alzheimers disease;
KW   antiinflammatory; cytostatic; antirheumatic; antiarthritic; antiallergic;
KW   antipsoriatic; anti-HIV; antiarteriosclerotic; immunosuppressive;
KW   vasotropic; cerebroprotective; dermatological; immunomodulator;
KW   antimalarial; antibacterial; hepatotropic; neuroprotective; nootropic;
KW   mutein.
XX
OS   Homo sapiens.
OS   Synthetic.
XX
PN   WO2005066206-A1.
XX
PD   21-JUL-2005.
XX
PF   05-JAN-2005; 2005WO-JP000032.
XX
PR   06-JAN-2004; 2004JP-00001427.
XX
```

PA (HAYB) HAYASHIBARA SEIBUTSU KAGAKU.
PA (MAYU/) MAYUMI T.
PA (TSUT/) TSUTSUMI Y.
PA (NAKA/) NAKAGAWA S.
XX
PI Mayumi T, Tsutsumi Y, Nakagawa S, Ohta T;
XX
DR WPI; 2005-506850/51.
DR N-PSDB; AEB45446.
XX
PT Novel tumor necrosis factor TNF mutant protein, useful for treating
PT and/or preventing diseases such as inflammation, and other diseases
PT caused by overexpression of TNF, such as autoimmune diseases, tumor,
PT rheumatoid arthritis, allergy.
XX
PS Claim 4; SEQ ID NO 16; 34pp; Japanese.
XX
CC The invention relates to tumor necrosis factor (TNF) mutant proteins,
CC particularly tumor necrosis factor mutant proteins specific for TNF-R1 or
CC TNF-R2 (SEQ ID Nos 19-22 and 37-59 respectively). The invention discloses
CC a TNF mutant protein comprising an amino acid sequence derived from the
CC human TNF-alpha protein (given as SEQ ID No: 1) by the substitution of
CC one or more amino acid residues at 29, 31, 32, 145, 146 and 147 from the
CC N-terminus, and amino acid residues at positions 84-89 by other amino
CC acid residue(s). Also described are: (1) a TNF inhibitor comprising a TNF
CC mutant protein; and (2) a TNF formulation comprising a TNF mutant
CC protein. The TNF mutant proteins are useful for treating and/or
CC preventing diseases such as inflammation, and other diseases caused by
CC overexpression of TNF, such as autoimmune diseases, tumors (e.g. colon
CC cancer, rectal cancer, uterine cancer, brain tumor, leukemia, lymphoma),
CC Crohn's disease, rheumatoid arthritis, allergies, psoriasis, cachexia,
CC transplant rejection, stroke, ischemia, restenosis, AIDS, severe acute
CC respiratory syndrome (SARS), atherosclerosis, Behcet's disease, systemic
CC lupus erythematosus, malaria, meningitis, hepatitis, Alzheimer's disease,
CC etc. The TNF mutant proteins are highly stable in vivo. This sequence
CC represents a human TNF-alpha mutant protein specific for TNF-R1. Note:
CC The sequence data for this patent did not form part of the printed
CC specification, but was obtained in electronic format directly from WIPO
CC at ftp.wipo.int/pub/published_pct_sequences.
XX
SQ Sequence 157 AA;

Query Match 99.0%; Score 806; DB 9; Length 157;
Best Local Similarity 98.7%; Pred. No. 6.4e-75;
Matches 155; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

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Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||||||||||||||||||| |:||||||||||
Db        121 GGVFQLEPGDRLSAEINRPDYLDFRETGQVYFGIIAL 157
```

RESULT 4
AEB45434
ID AEB45434 standard; protein; 157 AA.
XX
AC AEB45434;
XX
DT 22-SEP-2005 (first entry)
XX
DE TNF-R1 specific human TNF-alpha mutant protein, SEQ ID No:18.
XX
KW tumor necrosis factor-alpha; TNF-alpha; TNF inhibitor; inflammation;
KW autoimmune disease; tumor; transplant rejection; cardiovascular disease;
KW acquired immune deficiency syndrome; severe acute respiratory syndrome;
KW plasmodium infection; meningitis; hepatitis; Alzheimers disease;
KW antiinflammatory; cytostatic; antirheumatic; antiarthritic; antiallergic;
KW antipsoriatic; anti-HIV; antiarteriosclerotic; immunosuppressive;
KW vasotropic; cerebroprotective; dermatological; immunomodulator;
KW antimalarial; antibacterial; hepatotropic; neuroprotective; nootropic;
KW mutein.
XX
OS Homo sapiens.
OS Synthetic.
XX
PN WO2005066206-A1.
XX
PD 21-JUL-2005.
XX
PF 05-JAN-2005; 2005WO-JP000032.
XX
PR 06-JAN-2004; 2004JP-00001427.
XX
PA (HAYB) HAYASHIBARA SEIBUTSU KAGAKU.
PA (MAYU/) MAYUMI T.
PA (TSUT/) TSUTSUMI Y.
PA (NAKA/) NAKAGAWA S.
XX
PI Mayumi T, Tsutsumi Y, Nakagawa S, Ohta T;
XX
DR WPI; 2005-506850/51.
DR N-PSDB; AEB45448.
XX
PT Novel tumor necrosis factor TNF mutant protein, useful for treating
PT and/or preventing diseases such as inflammation, and other diseases
PT caused by overexpression of TNF, such as autoimmune diseases, tumor,
PT rheumatoid arthritis, allergy.
XX
PS Claim 4; SEQ ID NO 18; 34pp; Japanese.
XX
CC The invention relates to tumor necrosis factor (TNF) mutant proteins,
CC particularly tumor necrosis factor mutant proteins specific for TNF-R1 or
CC TNF-R2 (SEQ ID Nos 19-22 and 37-59 respectively). The invention discloses
CC a TNF mutant protein comprising an amino acid sequence derived from the
CC human TNF-alpha protein (given as SEQ ID No: 1) by the substitution of
CC one or more amino acid residues at 29, 31, 32, 145, 146 and 147 from the
CC N-terminus, and amino acid residues at positions 84-89 by other amino
CC acid residue(s). Also described are: (1) a TNF inhibitor comprising a TNF
CC mutant protein; and (2) a TNF formulation comprising a TNF mutant
CC protein. The TNF mutant proteins are useful for treating and/or
CC preventing diseases such as inflammation, and other diseases caused by
CC overexpression of TNF, such as autoimmune diseases, tumors (e.g. colon
CC cancer, rectal cancer, uterine cancer, brain tumor, leukemia, lymphoma),
CC Crohn's disease, rheumatoid arthritis, allergies, psoriasis, cachexia,
CC transplant rejection, stroke, ischemia, restenosis, AIDS, severe acute
CC respiratory syndrome (SARS), atherosclerosis, Behcet's disease, systemic
CC lupus erythematosus, malaria, meningitis, hepatitis, Alzheimer's disease,
CC etc. The TNF mutant proteins are highly stable in vivo. This sequence
CC represents a human TNF-alpha mutant protein specific for TNF-R1. Note:
CC The sequence data for this patent did not form part of the printed
CC specification, but was obtained in electronic format directly from WIPO
CC at ftp.wipo.int/pub/published_pct_sequences.
XX
SQ Sequence 157 AA;

Query Match 98.9%; Score 805; DB 9; Length 157;
Best Local Similarity 98.7%; Pred. No. 8.2e-75;
Matches 155; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

```
Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              |||||||||||||||||||||||  ||||||||||
```

```
Db        121 GGVFQLEPGDRLSAEINRPDYLDFANDGQVYFGIIAL 157


RESULT 5
AEB45430
ID   AEB45430 standard; protein; 157 AA.
XX
AC   AEB45430;
XX
DT   22-SEP-2005  (first entry)
XX
DE   TNF-R1 specific human TNF-alpha mutant protein, SEQ ID No:14.
XX
KW   tumor necrosis factor-alpha; TNF-alpha; TNF inhibitor; inflammation;
KW   autoimmune disease; tumor; transplant rejection; cardiovascular disease;
KW   acquired immune deficiency syndrome; severe acute respiratory syndrome;
KW   plasmodium infection; meningitis; hepatitis; Alzheimers disease;
KW   antiinflammatory; cytostatic; antirheumatic; antiarthritic; antiallergic;
KW   antipsoriatic; anti-HIV; antiarteriosclerotic; immunosuppressive;
KW   vasotropic; cerebroprotective; dermatological; immunomodulator;
KW   antimalarial; antibacterial; hepatotropic; neuroprotective; nootropic;
KW   mutein.
XX
OS   Homo sapiens.
OS   Synthetic.
XX
PN   WO2005066206-A1.
XX
PD   21-JUL-2005.
XX
PF   05-JAN-2005; 2005WO-JP000032.
XX
PR   06-JAN-2004; 2004JP-00001427.
XX
PA   (HAYB ) HAYASHIBARA SEIBUTSU KAGAKU.
PA   (MAYU/) MAYUMI T.
PA   (TSUT/) TSUTSUMI Y.
PA   (NAKA/) NAKAGAWA S.
XX
PI   Mayumi T,  Tsutsumi Y,  Nakagawa S,  Ohta T;
XX
DR   WPI; 2005-506850/51.
DR   N-PSDB; AEB45444.
XX
PT   Novel tumor necrosis factor TNF mutant protein, useful for treating
PT   and/or preventing diseases such as inflammation, and other diseases
PT   caused by overexpression of TNF, such as autoimmune diseases, tumor,
PT   rheumatoid arthritis, allergy.
XX
PS   Claim 4; SEQ ID NO 14; 34pp; Japanese.
XX
CC   The invention relates to tumor necrosis factor (TNF) mutant proteins,
CC   particularly tumor necrosis factor mutant proteins specific for TNF-R1 or
CC   TNF-R2 (SEQ ID Nos 19-22 and 37-59 respectively). The invention discloses
CC   a TNF mutant protein comprising an amino acid sequence derived from the
CC   human TNF-alpha protein (given as SEQ ID No: 1) by the substitution of
CC   one or more amino acid residues at 29, 31, 32, 145, 146 and 147 from the
CC   N-terminus, and amino acid residues at positions 84-89 by other amino
CC   acid residue(s). Also described are: (1) a TNF inhibitor comprising a TNF
CC   mutant protein; and (2) a TNF formulation comprising a TNF mutant
CC   protein. The TNF mutant proteins are useful for treating and/or
CC   preventing diseases such as inflammation, and other diseases caused by
CC   overexpression of TNF, such as autoimmune diseases, tumors (e.g. colon
CC   cancer, rectal cancer, uterine cancer, brain tumor, leukemia, lymphoma),
CC   Crohn's disease, rheumatoid arthritis, allergies, psoriasis, cachexia,
CC   transplant rejection, stroke, ischemia, restenosis, AIDS, severe acute
CC   respiratory syndrome (SARS), atherosclerosis, Behcet's disease, systemic
CC   lupus erythematosus, malaria, meningitis, hepatitis, Alzheimer's disease,
CC   etc. The TNF mutant proteins are highly stable in vivo. This sequence
CC   represents a human TNF-alpha mutant protein specific for TNF-R1. Note:
CC   The sequence data for this patent did not form part of the printed
CC   specification, but was obtained in electronic format directly from WIPO
CC   at ftp.wipo.int/pub/published_pct_sequences.
XX
SQ   Sequence 157 AA;

  Query Match            98.6%;  Score 803;  DB 9;  Length 157;
  Best Local Similarity  98.1%;  Pred. No. 1.3e-74;
  Matches  154;  Conservative    2;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||||||||||||||||||| ::||||||||||
Db        121 GGVFQLEPGDRLSAEINRPDYLDFKDTGQVYFGIIAL 157


RESULT 6
AEB45453
ID   AEB45453 standard; protein; 157 AA.
XX
AC   AEB45453;
XX
DT   22-SEP-2005  (first entry)
XX
DE   TNF-R2 specific human TNF-alpha mutant protein, SEQ ID No:37.
XX
KW   tumor necrosis factor-alpha; TNF-alpha; TNF inhibitor; inflammation;
KW   autoimmune disease; tumor; transplant rejection; cardiovascular disease;
KW   acquired immune deficiency syndrome; severe acute respiratory syndrome;
KW   plasmodium infection; meningitis; hepatitis; Alzheimers disease;
KW   antiinflammatory; cytostatic; antirheumatic; antiarthritic; antiallergic;
KW   antipsoriatic; anti-HIV; antiarteriosclerotic; immunosuppressive;
KW   vasotropic; cerebroprotective; dermatological; immunomodulator;
KW   antimalarial; antibacterial; hepatotropic; neuroprotective; nootropic;
KW   mutein.
XX
OS   Homo sapiens.
OS   Synthetic.
XX
PN   WO2005066206-A1.
XX
PD   21-JUL-2005.
XX
PF   05-JAN-2005; 2005WO-JP000032.
XX
PR   06-JAN-2004; 2004JP-00001427.
XX
PA   (HAYB ) HAYASHIBARA SEIBUTSU KAGAKU.
PA   (MAYU/) MAYUMI T.
PA   (TSUT/) TSUTSUMI Y.
PA   (NAKA/) NAKAGAWA S.
XX
PI   Mayumi T,  Tsutsumi Y,  Nakagawa S,  Ohta T;
XX
DR   WPI; 2005-506850/51.
DR   N-PSDB; AEB45476.
XX
PT   Novel tumor necrosis factor TNF mutant protein, useful for treating
PT   and/or preventing diseases such as inflammation, and other diseases
PT   caused by overexpression of TNF, such as autoimmune diseases, tumor,
PT   rheumatoid arthritis, allergy.
XX
PS   Claim 5; SEQ ID NO 37; 34pp; Japanese.
XX
CC   The invention relates to tumor necrosis factor (TNF) mutant proteins,
CC   particularly tumor necrosis factor mutant proteins specific for TNF-R1 or
CC   TNF-R2 (SEQ ID Nos 19-22 and 37-59 respectively). The invention discloses
CC   a TNF mutant protein comprising an amino acid sequence derived from the
CC   human TNF-alpha protein (given as SEQ ID No: 1) by the substitution of
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CC   one or more amino acid residues at 29, 31, 32, 145, 146 and 147 from the
CC   N-terminus, and amino acid residues at positions 84-89 by other amino
CC   acid residue(s). Also described are: (1) a TNF inhibitor comprising a TNF
CC   mutant protein; and (2) a TNF formulation comprising a TNF mutant
CC   protein. The TNF mutant proteins are useful for treating and/or
CC   preventing diseases such as inflammation, and other diseases caused by
CC   overexpression of TNF, such as autoimmune diseases, tumors (e.g. colon
CC   cancer, rectal cancer, uterine cancer, brain tumor, leukemia, lymphoma),
CC   Crohn's disease, rheumatoid arthritis, allergies, psoriasis, cachexia,
CC   transplant rejection, stroke, ischemia, restenosis, AIDS, severe acute
CC   respiratory syndrome (SARS), atherosclerosis, Behcet's disease, systemic
CC   lupus erythematosus, malaria, meningitis, hepatitis, Alzheimer's disease,
CC   etc. The TNF mutant proteins are highly stable in vivo. This sequence
CC   represents a human TNF-alpha mutant protein specific for TNF-R2. Note:
CC   The sequence data for this patent did not form part of the printed
CC   specification, but was obtained in electronic format directly from WIPO
CC   at ftp.wipo.int/pub/published_pct_sequences.
XX
SQ   Sequence 157 AA;

  Query Match             98.3%;  Score 800;  DB 9;  Length 157;
  Best Local Similarity   98.7%;  Pred. No. 2.7e-74;
  Matches  155;  Conservative    0;  Mismatches    2;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              ||||||||||||||||||||||||||| || ||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWQNRWANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              |||||||||||||||||||||||||||||||||||||
Db        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 7
AEB45431
ID   AEB45431 standard; protein; 157 AA.
XX
AC   AEB45431;
XX
DT   22-SEP-2005  (first entry)
XX
DE   TNF-R1 specific human TNF-alpha mutant protein, SEQ ID No:15.
XX
KW   tumor necrosis factor-alpha; TNF-alpha; TNF inhibitor; inflammation;
KW   autoimmune disease; tumor; transplant rejection; cardiovascular disease;
KW   acquired immune deficiency syndrome; severe acute respiratory syndrome;
KW   plasmodium infection; meningitis; hepatitis; Alzheimers disease;
KW   antiinflammatory; cytostatic; antirheumatic; antiarthritic; antiallergic;
KW   antipsoriatic; anti-HIV; antiarteriosclerotic; immunosuppressive;
KW   vasotropic; cerebroprotective; dermatological; immunomodulator;
KW   antimalarial; antibacterial; hepatotropic; neuroprotective; nootropic;
KW   mutein.
XX
OS   Homo sapiens.
OS   Synthetic.
XX
PN   WO2005066206-A1.
XX
PD   21-JUL-2005.
XX
PF   05-JAN-2005; 2005WO-JP000032.
XX
PR   06-JAN-2004; 2004JP-00001427.
XX
PA   (HAYB ) HAYASHIBARA SEIBUTSU KAGAKU.
PA   (MAYU/) MAYUMI T.
PA   (TSUT/) TSUTSUMI Y.
PA   (NAKA/) NAKAGAWA S.
XX
PI   Mayumi T,  Tsutsumi Y,  Nakagawa S,  Ohta T;
XX
DR   WPI; 2005-506850/51.
DR   N-PSDB; AEB45445.
XX
PT   Novel tumor necrosis factor TNF mutant protein, useful for treating
PT   and/or preventing diseases such as inflammation, and other diseases
PT   caused by overexpression of TNF, such as autoimmune diseases, tumor,
PT   rheumatoid arthritis, allergy.
XX
PS   Claim 4; SEQ ID NO 15; 34pp; Japanese.
XX
CC   The invention relates to tumor necrosis factor (TNF) mutant proteins,
CC   particularly tumor necrosis factor mutant proteins specific for TNF-R1 or
CC   TNF-R2 (SEQ ID Nos 19-22 and 37-59 respectively). The invention discloses
CC   a TNF mutant protein comprising an amino acid sequence derived from the
CC   human TNF-alpha protein (given as SEQ ID No: 1) by the substitution of
CC   one or more amino acid residues at 29, 31, 32, 145, 146 and 147 from the
CC   N-terminus, and amino acid residues at positions 84-89 by other amino
CC   acid residue(s). Also described are: (1) a TNF inhibitor comprising a TNF
CC   mutant protein; and (2) a TNF formulation comprising a TNF mutant
CC   protein. The TNF mutant proteins are useful for treating and/or
CC   preventing diseases such as inflammation, and other diseases caused by
CC   overexpression of TNF, such as autoimmune diseases, tumors (e.g. colon
CC   cancer, rectal cancer, uterine cancer, brain tumor, leukemia, lymphoma),
CC   Crohn's disease, rheumatoid arthritis, allergies, psoriasis, cachexia,
CC   transplant rejection, stroke, ischemia, restenosis, AIDS, severe acute
CC   respiratory syndrome (SARS), atherosclerosis, Behcet's disease, systemic
CC   lupus erythematosus, malaria, meningitis, hepatitis, Alzheimer's disease,
CC   etc. The TNF mutant proteins are highly stable in vivo. This sequence
CC   represents a human TNF-alpha mutant protein specific for TNF-R1. Note:
CC   The sequence data for this patent did not form part of the printed
CC   specification, but was obtained in electronic format directly from WIPO
CC   at ftp.wipo.int/pub/published_pct_sequences.
XX
SQ   Sequence 157 AA;

  Query Match             98.2%;  Score 799;  DB 9;  Length 157;
  Best Local Similarity   98.1%;  Pred. No. 3.4e-74;
  Matches  154;  Conservative    0;  Mismatches    3;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              |||||||||||||||||||||||   ||||||||||
Db        121 GGVFQLEPGDRLSAEINRPDYLDFRTDGQVYFGIIAL 157


RESULT 8
AEB45454
ID   AEB45454 standard; protein; 157 AA.
XX
AC   AEB45454;
XX
DT   22-SEP-2005  (first entry)
XX
DE   TNF-R2 specific human TNF-alpha mutant protein, SEQ ID No:38.
XX
KW   tumor necrosis factor-alpha; TNF-alpha; TNF inhibitor; inflammation;
KW   autoimmune disease; tumor; transplant rejection; cardiovascular disease;
KW   acquired immune deficiency syndrome; severe acute respiratory syndrome;
KW   plasmodium infection; meningitis; hepatitis; Alzheimers disease;
KW   antiinflammatory; cytostatic; antirheumatic; antiarthritic; antiallergic;
KW   antipsoriatic; anti-HIV; antiarteriosclerotic; immunosuppressive;
KW   vasotropic; cerebroprotective; dermatological; immunomodulator;
KW   antimalarial; antibacterial; hepatotropic; neuroprotective; nootropic;
KW   mutein.
```

```
XX
OS   Homo sapiens.
OS   Synthetic.
XX
PN   WO2005066206-A1.
XX
PD   21-JUL-2005.
XX
PF   05-JAN-2005; 2005WO-JP000032.
XX
PR   06-JAN-2004; 2004JP-00001427.
XX
PA   (HAYB ) HAYASHIBARA SEIBUTSU KAGAKU.
PA   (MAYU/) MAYUMI T.
PA   (TSUT/) TSUTSUMI Y.
PA   (NAKA/) NAKAGAWA S.
XX
PI   Mayumi T,  Tsutsumi Y,  Nakagawa S,  Ohta T;
XX
DR   WPI; 2005-506850/51.
DR   N-PSDB; AEB45477.
XX
PT   Novel tumor necrosis factor TNF mutant protein, useful for treating
PT   and/or preventing diseases such as inflammation, and other diseases
PT   caused by overexpression of TNF, such as autoimmune diseases, tumor,
PT   rheumatoid arthritis, allergy.
XX
PS   Claim 5; SEQ ID NO 38; 34pp; Japanese.
XX
CC   The invention relates to tumor necrosis factor (TNF) mutant proteins,
CC   particularly tumor necrosis factor mutant proteins specific for TNF-R1 or
CC   TNF-R2 (SEQ ID Nos 19-22 and 37-59 respectively). The invention discloses
CC   a TNF mutant protein comprising an amino acid sequence derived from the
CC   human TNF-alpha protein (given as SEQ ID No: 1) by the substitution of
CC   one or more amino acid residues at 29, 31, 32, 145, 146 and 147 from the
CC   N-terminus, and amino acid residues at positions 84-89 by other amino
CC   acid residue(s). Also described are: (1) a TNF inhibitor comprising a TNF
CC   mutant protein; and (2) a TNF formulation comprising a TNF mutant
CC   protein. The TNF mutant proteins are useful for treating and/or
CC   preventing diseases such as inflammation, and other diseases caused by
CC   overexpression of TNF, such as autoimmune diseases, tumors (e.g. colon
CC   cancer, rectal cancer, uterine cancer, brain tumor, leukemia, lymphoma),
CC   Crohn's disease, rheumatoid arthritis, allergies, psoriasis, cachexia,
CC   transplant rejection, stroke, ischemia, restenosis, AIDS, severe acute
CC   respiratory syndrome (SARS), atherosclerosis, Behcet's disease, systemic
CC   lupus erythematosus, malaria, meningitis, hepatitis, Alzheimer's disease,
CC   etc. The TNF mutant proteins are highly stable in vivo. This sequence
CC   represents a human TNF-alpha mutant protein specific for TNF-R2. Note:
CC   The sequence data for this patent did not form part of the printed
CC   specification, but was obtained in electronic format directly from WIPO
CC   at ftp.wipo.int/pub/published_pct_sequences.
XX
SQ   Sequence 157 AA;

  Query Match             97.7%;  Score 795;  DB 9;  Length 157;
  Best Local Similarity   98.1%;  Pred. No. 8.8e-74;
  Matches  154;  Conservative    0;  Mismatches    3;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              ||||||||||||||||||||||||||| | ||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWTNGYANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              |||||||||||||||||||||||||||||||||||||
Db        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 9
AEB45469
ID   AEB45469 standard; protein; 157 AA.
XX
AC   AEB45469;
XX
DT   22-SEP-2005  (first entry)
XX
DE   TNF-R2 specific human TNF-alpha mutant protein, SEQ ID No:53.
XX
KW   tumor necrosis factor-alpha; TNF-alpha; TNF inhibitor; inflammation;
KW   autoimmune disease; tumor; transplant rejection; cardiovascular disease;
KW   acquired immune deficiency syndrome; severe acute respiratory syndrome;
KW   plasmodium infection; meningitis; hepatitis; Alzheimers disease;
KW   antiinflammatory; cytostatic; antirheumatic; antiarthritic; antiallergic;
KW   antipsoriatic; anti-HIV; antiarteriosclerotic; immunosuppressive;
KW   vasotropic; cerebroprotective; dermatological; immunomodulator;
KW   antimalarial; antibacterial; hepatotropic; neuroprotective; nootropic;
KW   mutein.
XX
OS   Homo sapiens.
OS   Synthetic.
XX
PN   WO2005066206-A1.
XX
PD   21-JUL-2005.
XX
PF   05-JAN-2005; 2005WO-JP000032.
XX
PR   06-JAN-2004; 2004JP-00001427.
XX
PA   (HAYB ) HAYASHIBARA SEIBUTSU KAGAKU.
PA   (MAYU/) MAYUMI T.
PA   (TSUT/) TSUTSUMI Y.
PA   (NAKA/) NAKAGAWA S.
XX
PI   Mayumi T,  Tsutsumi Y,  Nakagawa S,  Ohta T;
XX
DR   WPI; 2005-506850/51.
DR   N-PSDB; AEB45492.
XX
PT   Novel tumor necrosis factor TNF mutant protein, useful for treating
PT   and/or preventing diseases such as inflammation, and other diseases
PT   caused by overexpression of TNF, such as autoimmune diseases, tumor,
PT   rheumatoid arthritis, allergy.
XX
PS   Claim 5; SEQ ID NO 53; 34pp; Japanese.
XX
CC   The invention relates to tumor necrosis factor (TNF) mutant proteins,
CC   particularly tumor necrosis factor mutant proteins specific for TNF-R1 or
CC   TNF-R2 (SEQ ID Nos 19-22 and 37-59 respectively). The invention discloses
CC   a TNF mutant protein comprising an amino acid sequence derived from the
CC   human TNF-alpha protein (given as SEQ ID No: 1) by the substitution of
CC   one or more amino acid residues at 29, 31, 32, 145, 146 and 147 from the
CC   N-terminus, and amino acid residues at positions 84-89 by other amino
CC   acid residue(s). Also described are: (1) a TNF inhibitor comprising a TNF
CC   mutant protein; and (2) a TNF formulation comprising a TNF mutant
CC   protein. The TNF mutant proteins are useful for treating and/or
CC   preventing diseases such as inflammation, and other diseases caused by
CC   overexpression of TNF, such as autoimmune diseases, tumors (e.g. colon
CC   cancer, rectal cancer, uterine cancer, brain tumor, leukemia, lymphoma),
CC   Crohn's disease, rheumatoid arthritis, allergies, psoriasis, cachexia,
CC   transplant rejection, stroke, ischemia, restenosis, AIDS, severe acute
CC   respiratory syndrome (SARS), atherosclerosis, Behcet's disease, systemic
CC   lupus erythematosus, malaria, meningitis, hepatitis, Alzheimer's disease,
CC   etc. The TNF mutant proteins are highly stable in vivo. This sequence
CC   represents a human TNF-alpha mutant protein specific for TNF-R2. Note:
CC   The sequence data for this patent did not form part of the printed
CC   specification, but was obtained in electronic format directly from WIPO
CC   at ftp.wipo.int/pub/published_pct_sequences.
XX
SQ   Sequence 157 AA;

  Query Match             97.4%;  Score 793;  DB 9;  Length 157;
  Best Local Similarity   97.5%;  Pred. No. 1.4e-73;
```

```
  Matches  153;  Conservative    0;  Mismatches    4;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              ||||||||||||||||||||||  ||  ||||||||||||||||||||||||||||||||
Db         61 QVLFSGQGCPSTHVLLTHTISRITKSYSKPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              |||||||||||||||||||||||||||||||||||||
Db        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 10
AEB45438
ID   AEB45438 standard; protein; 157 AA.
XX
AC   AEB45438;
XX
DT   22-SEP-2005  (first entry)
XX
DE   TNF-R1 specific human TNF-alpha mutant protein, SEQ ID No:22.
XX
KW   tumor necrosis factor-alpha; TNF-alpha; TNF inhibitor; inflammation;
KW   autoimmune disease; tumor; transplant rejection; cardiovascular disease;
KW   acquired immune deficiency syndrome; severe acute respiratory syndrome;
KW   plasmodium infection; meningitis; hepatitis; Alzheimers disease;
KW   antiinflammatory; cytostatic; antirheumatic; antiarthritic; antiallergic;
KW   antipsoriatic; anti-HIV; antiarteriosclerotic; immunosuppressive;
KW   vasotropic; cerebroprotective; dermatological; immunomodulator;
KW   antimalarial; antibacterial; hepatotropic; neuroprotective; nootropic;
KW   mutein.
XX
OS   Homo sapiens.
OS   Synthetic.
XX
PN   WO2005066206-A1.
XX
PD   21-JUL-2005.
XX
PF   05-JAN-2005; 2005WO-JP000032.
XX
PR   06-JAN-2004; 2004JP-00001427.
XX
PA   (HAYB ) HAYASHIBARA SEIBUTSU KAGAKU.
PA   (MAYU/) MAYUMI T.
PA   (TSUT/) TSUTSUMI Y.
PA   (NAKA/) NAKAGAWA S.
XX
PI   Mayumi T,  Tsutsumi Y,  Nakagawa S,  Ohta T;
XX
DR   WPI; 2005-506850/51.
DR   N-PSDB; AEB45452.
XX
PT   Novel tumor necrosis factor TNF mutant protein, useful for treating
PT   and/or preventing diseases such as inflammation, and other diseases
PT   caused by overexpression of TNF, such as autoimmune diseases, tumor,
PT   rheumatoid arthritis, allergy.
XX
PS   Claim 4; SEQ ID NO 22; 34pp; Japanese.
XX
CC   The invention relates to tumor necrosis factor (TNF) mutant proteins,
CC   particularly tumor necrosis factor mutant proteins specific for TNF-R1 or
CC   TNF-R2 (SEQ ID Nos 19-22 and 37-59 respectively). The invention discloses
CC   a TNF mutant protein comprising an amino acid sequence derived from the
CC   human TNF-alpha protein (given as SEQ ID No: 1) by the substitution of
CC   one or more amino acid residues at 29, 31, 32, 145, 146 and 147 from the
CC   N-terminus, and amino acid residues at positions 84-89 by other amino
CC   acid residue(s). Also described are: (1) a TNF inhibitor comprising a TNF
CC   mutant protein; and (2) a TNF formulation comprising a TNF mutant
CC   protein. The TNF mutant proteins are useful for treating and/or
CC   preventing diseases such as inflammation, and other diseases caused by
CC   overexpression of TNF, such as autoimmune diseases, tumors (e.g. colon
CC   cancer, rectal cancer, uterine cancer, brain tumor, leukemia, lymphoma),
CC   Crohn's disease, rheumatoid arthritis, allergies, psoriasis, cachexia,
CC   transplant rejection, stroke, ischemia, restenosis, AIDS, severe acute
CC   respiratory syndrome (SARS), atherosclerosis, Behcet's disease, systemic
CC   lupus erythematosus, malaria, meningitis, hepatitis, Alzheimer's disease,
CC   etc. The TNF mutant proteins are highly stable in vivo. This sequence
CC   represents a human TNF-alpha mutant protein specific for TNF-R1. Note:
CC   The sequence data for this patent did not form part of the printed
CC   specification, but was obtained in electronic format directly from WIPO
CC   at ftp.wipo.int/pub/published_pct_sequences.
XX
SQ   Sequence 157 AA;

  Query Match             97.3%;  Score 792;  DB 9;  Length 157;
  Best Local Similarity   97.5%;  Pred. No. 1.8e-73;
  Matches  153;  Conservative    0;  Mismatches    4;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              ||||||||||||||||||||||  ||  ||||||||||||||||||||||||||||||||
Db         61 QVLFSGQGCPSTHVLLTHTISRIGGPYQRPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              |||||||||||||||||||||||||||||||||||||
Db        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 11
AEB45436
ID   AEB45436 standard; protein; 157 AA.
XX
AC   AEB45436;
XX
DT   22-SEP-2005  (first entry)
XX
DE   TNF-R1 specific human TNF-alpha mutant protein, SEQ ID No:20.
XX
KW   tumor necrosis factor-alpha; TNF-alpha; TNF inhibitor; inflammation;
KW   autoimmune disease; tumor; transplant rejection; cardiovascular disease;
KW   acquired immune deficiency syndrome; severe acute respiratory syndrome;
KW   plasmodium infection; meningitis; hepatitis; Alzheimers disease;
KW   antiinflammatory; cytostatic; antirheumatic; antiarthritic; antiallergic;
KW   antipsoriatic; anti-HIV; antiarteriosclerotic; immunosuppressive;
KW   vasotropic; cerebroprotective; dermatological; immunomodulator;
KW   antimalarial; antibacterial; hepatotropic; neuroprotective; nootropic;
KW   mutein.
XX
OS   Homo sapiens.
OS   Synthetic.
XX
PN   WO2005066206-A1.
XX
PD   21-JUL-2005.
XX
PF   05-JAN-2005; 2005WO-JP000032.
XX
PR   06-JAN-2004; 2004JP-00001427.
XX
PA   (HAYB ) HAYASHIBARA SEIBUTSU KAGAKU.
PA   (MAYU/) MAYUMI T.
PA   (TSUT/) TSUTSUMI Y.
PA   (NAKA/) NAKAGAWA S.
XX
PI   Mayumi T,  Tsutsumi Y,  Nakagawa S,  Ohta T;
XX
DR   WPI; 2005-506850/51.
DR   N-PSDB; AEB45450.
XX
```

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PT   Novel tumor necrosis factor TNF mutant protein, useful for treating
PT   and/or preventing diseases such as inflammation, and other diseases
PT   caused by overexpression of TNF, such as autoimmune diseases, tumor,
PT   rheumatoid arthritis, allergy.
XX
PS   Claim 4; SEQ ID NO 20; 34pp; Japanese.
XX
CC   The invention relates to tumor necrosis factor (TNF) mutant proteins,
CC   particularly tumor necrosis factor mutant proteins specific for TNF-R1 or
CC   TNF-R2 (SEQ ID Nos 19-22 and 37-59 respectively). The invention discloses
CC   a TNF mutant protein comprising an amino acid sequence derived from the
CC   human TNF-alpha protein (given as SEQ ID No: 1) by the substitution of
CC   one or more amino acid residues at 29, 31, 32, 145, 146 and 147 from the
CC   N-terminus, and amino acid residues at positions 84-89 by other amino
CC   acid residue(s). Also described are: (1) a TNF inhibitor comprising a TNF
CC   mutant protein; and (2) a TNF formulation comprising a TNF mutant
CC   protein. The TNF mutant proteins are useful for treating and/or
CC   preventing diseases such as inflammation, and other diseases caused by
CC   overexpression of TNF, such as autoimmune diseases, tumors (e.g. colon
CC   cancer, rectal cancer, uterine cancer, brain tumor, leukemia, lymphoma),
CC   Crohn's disease, rheumatoid arthritis, allergies, psoriasis, cachexia,
CC   transplant rejection, stroke, ischemia, restenosis, AIDS, severe acute
CC   respiratory syndrome (SARS), atherosclerosis, Behcet's disease, systemic
CC   lupus erythematosus, malaria, meningitis, hepatitis, Alzheimer's disease,
CC   etc. The TNF mutant proteins are highly stable in vivo. This sequence
CC   represents a human TNF-alpha mutant protein specific for TNF-R1. Note:
CC   The sequence data for this patent did not form part of the printed
CC   specification, but was obtained in electronic format directly from WIPO
CC   at ftp.wipo.int/pub/published_pct_sequences.
XX
SQ   Sequence 157 AA;

  Query Match             97.3%;  Score 792;  DB 9;  Length 157;
  Best Local Similarity   97.5%;  Pred. No. 1.8e-73;
  Matches  153;  Conservative    0;  Mismatches    4;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              |||||||||||||||||||||||  |  ||||||||||||||||||||||||||||||||
Db         61 QVLFSGQGCPSTHVLLTHTISRIAPGYSHPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              |||||||||||||||||||||||||||||||||||||
Db        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 12
AEB45461
ID   AEB45461 standard; protein; 157 AA.
XX
AC   AEB45461;
XX
DT   22-SEP-2005  (first entry)
XX
DE   TNF-R2 specific human TNF-alpha mutant protein, SEQ ID No:45.
XX
KW   tumor necrosis factor-alpha; TNF-alpha; TNF inhibitor; inflammation;
KW   autoimmune disease; tumor; transplant rejection; cardiovascular disease;
KW   acquired immune deficiency syndrome; severe acute respiratory syndrome;
KW   plasmodium infection; meningitis; hepatitis; Alzheimers disease;
KW   antiinflammatory; cytostatic; antirheumatic; antiarthritic; antiallergic;
KW   antipsoriatic; anti-HIV; antiarteriosclerotic; immunosuppressive;
KW   vasotropic; cerebroprotective; dermatological; immunomodulator;
KW   antimalarial; antibacterial; hepatotropic; neuroprotective; nootropic;
KW   mutein.
XX
OS   Homo sapiens.
OS   Synthetic.
XX
PN   WO2005066206-A1.
XX
PD   21-JUL-2005.
XX
PF   05-JAN-2005; 2005WO-JP000032.
XX
PR   06-JAN-2004; 2004JP-00001427.
XX
PA   (HAYB ) HAYASHIBARA SEIBUTSU KAGAKU.
PA   (MAYU/) MAYUMI T.
PA   (TSUT/) TSUTSUMI Y.
PA   (NAKA/) NAKAGAWA S.
XX
PI   Mayumi T,  Tsutsumi Y,  Nakagawa S,  Ohta T;
XX
DR   WPI; 2005-506850/51.
DR   N-PSDB; AEB45484.
XX
PT   Novel tumor necrosis factor TNF mutant protein, useful for treating
PT   and/or preventing diseases such as inflammation, and other diseases
PT   caused by overexpression of TNF, such as autoimmune diseases, tumor,
PT   rheumatoid arthritis, allergy.
XX
PS   Claim 5; SEQ ID NO 45; 34pp; Japanese.
XX
CC   The invention relates to tumor necrosis factor (TNF) mutant proteins,
CC   particularly tumor necrosis factor mutant proteins specific for TNF-R1 or
CC   TNF-R2 (SEQ ID Nos 19-22 and 37-59 respectively). The invention discloses
CC   a TNF mutant protein comprising an amino acid sequence derived from the
CC   human TNF-alpha protein (given as SEQ ID No: 1) by the substitution of
CC   one or more amino acid residues at 29, 31, 32, 145, 146 and 147 from the
CC   N-terminus, and amino acid residues at positions 84-89 by other amino
CC   acid residue(s). Also described are: (1) a TNF inhibitor comprising a TNF
CC   mutant protein; and (2) a TNF formulation comprising a TNF mutant
CC   protein. The TNF mutant proteins are useful for treating and/or
CC   preventing diseases such as inflammation, and other diseases caused by
CC   overexpression of TNF, such as autoimmune diseases, tumors (e.g. colon
CC   cancer, rectal cancer, uterine cancer, brain tumor, leukemia, lymphoma),
CC   Crohn's disease, rheumatoid arthritis, allergies, psoriasis, cachexia,
CC   transplant rejection, stroke, ischemia, restenosis, AIDS, severe acute
CC   respiratory syndrome (SARS), atherosclerosis, Behcet's disease, systemic
CC   lupus erythematosus, malaria, meningitis, hepatitis, Alzheimer's disease,
CC   etc. The TNF mutant proteins are highly stable in vivo. This sequence
CC   represents a human TNF-alpha mutant protein specific for TNF-R2. Note:
CC   The sequence data for this patent did not form part of the printed
CC   specification, but was obtained in electronic format directly from WIPO
CC   at ftp.wipo.int/pub/published_pct_sequences.
XX
SQ   Sequence 157 AA;

  Query Match             97.3%;  Score 792;  DB 9;  Length 157;
  Best Local Similarity   96.8%;  Pred. No. 1.8e-73;
  Matches  152;  Conservative    3;  Mismatches    2;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              |||||||||||||||||||||||: :| :||||||||||||||||||||||||||||||||
Db         61 QVLFSGQGCPSTHVLLTHTISRISSAYASPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              |||||||||||||||||||||||||||||||||||||
Db        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 13
AEB45460
ID   AEB45460 standard; protein; 157 AA.
XX
AC   AEB45460;
XX
DT   22-SEP-2005  (first entry)
```

XX
DE TNF-R2 specific human TNF-alpha mutant protein, SEQ ID No:44.
XX
KW tumor necrosis factor-alpha; TNF-alpha; TNF inhibitor; inflammation;
KW autoimmune disease; tumor; transplant rejection; cardiovascular disease;
KW acquired immune deficiency syndrome; severe acute respiratory syndrome;
KW plasmodium infection; meningitis; hepatitis; Alzheimers disease;
KW antiinflammatory; cytostatic; antirheumatic; antiarthritic; antiallergic;
KW antipsoriatic; anti-HIV; antiarteriosclerotic; immunosuppressive;
KW vasotropic; cerebroprotective; dermatological; immunomodulator;
KW antimalarial; antibacterial; hepatotropic; neuroprotective; nootropic;
KW mutein.
XX
OS Homo sapiens.
OS Synthetic.
XX
PN WO2005066206-A1.
XX
PD 21-JUL-2005.
XX
PF 05-JAN-2005; 2005WO-JP000032.
XX
PR 06-JAN-2004; 2004JP-00001427.
XX
PA (HAYB) HAYASHIBARA SEIBUTSU KAGAKU.
PA (MAYU/) MAYUMI T.
PA (TSUT/) TSUTSUMI Y.
PA (NAKA/) NAKAGAWA S.
XX
PI Mayumi T, Tsutsumi Y, Nakagawa S, Ohta T;
XX
DR WPI; 2005-506850/51.
DR N-PSDB; AEB45483.
XX
PT Novel tumor necrosis factor TNF mutant protein, useful for treating
PT and/or preventing diseases such as inflammation, and other diseases
PT caused by overexpression of TNF, such as autoimmune diseases, tumor,
PT rheumatoid arthritis, allergy.
XX
PS Claim 5; SEQ ID NO 44; 34pp; Japanese.
XX
CC The invention relates to tumor necrosis factor (TNF) mutant proteins,
CC particularly tumor necrosis factor mutant proteins specific for TNF-R1 or
CC TNF-R2 (SEQ ID Nos 19-22 and 37-59 respectively). The invention discloses
CC a TNF mutant protein comprising an amino acid sequence derived from the
CC human TNF-alpha protein (given as SEQ ID No: 1) by the substitution of
CC one or more amino acid residues at 29, 31, 32, 145, 146 and 147 from the
CC N-terminus, and amino acid residues at positions 84-89 by other amino
CC acid residue(s). Also described are: (1) a TNF inhibitor comprising a TNF
CC mutant protein; and (2) a TNF formulation comprising a TNF mutant
CC protein. The TNF mutant proteins are useful for treating and/or
CC preventing diseases such as inflammation, and other diseases caused by
CC overexpression of TNF, such as autoimmune diseases, tumors (e.g. colon
CC cancer, rectal cancer, uterine cancer, brain tumor, leukemia, lymphoma),
CC Crohn's disease, rheumatoid arthritis, allergies, psoriasis, cachexia,
CC transplant rejection, stroke, ischemia, restenosis, AIDS, severe acute
CC respiratory syndrome (SARS), atherosclerosis, Behcet's disease, systemic
CC lupus erythematosus, malaria, meningitis, hepatitis, Alzheimer's disease,
CC etc. The TNF mutant proteins are highly stable in vivo. This sequence
CC represents a human TNF-alpha mutant protein specific for TNF-R2. Note:
CC The sequence data for this patent did not form part of the printed
CC specification, but was obtained in electronic format directly from WIPO
CC at ftp.wipo.int/pub/published_pct_sequences.
XX
SQ Sequence 157 AA;

Query Match 97.2%; Score 791; DB 9; Length 157;
Best Local Similarity 96.8%; Pred. No. 2.3e-73;
Matches 152; Conservative 2; Mismatches 3; Indels 0; Gaps 0;

Qy 1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
Db 1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy 61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
Db 61 QVLFSGQGCPSTHVLLTHTISRISYNYGPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120

Qy 121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
Db 121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157

RESULT 14
AEB45464
ID AEB45464 standard; protein; 157 AA.
XX
AC AEB45464;
XX
DT 22-SEP-2005 (first entry)
XX
DE TNF-R2 specific human TNF-alpha mutant protein, SEQ ID No:48.
XX
KW tumor necrosis factor-alpha; TNF-alpha; TNF inhibitor; inflammation;
KW autoimmune disease; tumor; transplant rejection; cardiovascular disease;
KW acquired immune deficiency syndrome; severe acute respiratory syndrome;
KW plasmodium infection; meningitis; hepatitis; Alzheimers disease;
KW antiinflammatory; cytostatic; antirheumatic; antiarthritic; antiallergic;
KW antipsoriatic; anti-HIV; antiarteriosclerotic; immunosuppressive;
KW vasotropic; cerebroprotective; dermatological; immunomodulator;
KW antimalarial; antibacterial; hepatotropic; neuroprotective; nootropic;
KW mutein.
XX
OS Homo sapiens.
OS Synthetic.
XX
PN WO2005066206-A1.
XX
PD 21-JUL-2005.
XX
PF 05-JAN-2005; 2005WO-JP000032.
XX
PR 06-JAN-2004; 2004JP-00001427.
XX
PA (HAYB) HAYASHIBARA SEIBUTSU KAGAKU.
PA (MAYU/) MAYUMI T.
PA (TSUT/) TSUTSUMI Y.
PA (NAKA/) NAKAGAWA S.
XX
PI Mayumi T, Tsutsumi Y, Nakagawa S, Ohta T;
XX
DR WPI; 2005-506850/51.
DR N-PSDB; AEB45487.
XX
PT Novel tumor necrosis factor TNF mutant protein, useful for treating
PT and/or preventing diseases such as inflammation, and other diseases
PT caused by overexpression of TNF, such as autoimmune diseases, tumor,
PT rheumatoid arthritis, allergy.
XX
PS Claim 5; SEQ ID NO 48; 34pp; Japanese.
XX
CC The invention relates to tumor necrosis factor (TNF) mutant proteins,
CC particularly tumor necrosis factor mutant proteins specific for TNF-R1 or
CC TNF-R2 (SEQ ID Nos 19-22 and 37-59 respectively). The invention discloses
CC a TNF mutant protein comprising an amino acid sequence derived from the
CC human TNF-alpha protein (given as SEQ ID No: 1) by the substitution of
CC one or more amino acid residues at 29, 31, 32, 145, 146 and 147 from the
CC N-terminus, and amino acid residues at positions 84-89 by other amino
CC acid residue(s). Also described are: (1) a TNF inhibitor comprising a TNF
CC mutant protein; and (2) a TNF formulation comprising a TNF mutant
CC protein. The TNF mutant proteins are useful for treating and/or
CC preventing diseases such as inflammation, and other diseases caused by
CC overexpression of TNF, such as autoimmune diseases, tumors (e.g. colon
CC cancer, rectal cancer, uterine cancer, brain tumor, leukemia, lymphoma),
CC Crohn's disease, rheumatoid arthritis, allergies, psoriasis, cachexia,
CC transplant rejection, stroke, ischemia, restenosis, AIDS, severe acute

```
CC   respiratory syndrome (SARS), atherosclerosis, Behcet's disease, systemic
CC   lupus erythematosus, malaria, meningitis, hepatitis, Alzheimer's disease,
CC   etc. The TNF mutant proteins are highly stable in vivo. This sequence
CC   represents a human TNF-alpha mutant protein specific for TNF-R2. Note:
CC   The sequence data for this patent did not form part of the printed
CC   specification, but was obtained in electronic format directly from WIPO
CC   at ftp.wipo.int/pub/published_pct_sequences.
XX
SQ   Sequence 157 AA;

  Query Match             97.2%;  Score 791;  DB 9;  Length 157;
  Best Local Similarity   96.8%;  Pred. No. 2.3e-73;
  Matches  152;  Conservative    1;  Mismatches    4;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              |||||||||||||||||||||  :|  ||||||||||||||||||||||||||||||
Db         61 QVLFSGQGCPSTHVLLTHTISRITTAYSGPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              |||||||||||||||||||||||||||||||||||||
Db        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 15
AEB45472
ID   AEB45472 standard; protein; 157 AA.
XX
AC   AEB45472;
XX
DT   22-SEP-2005  (first entry)
XX
DE   TNF-R2 specific human TNF-alpha mutant protein, SEQ ID No:56.
XX
KW   tumor necrosis factor-alpha; TNF-alpha; TNF inhibitor; inflammation;
KW   autoimmune disease; tumor; transplant rejection; cardiovascular disease;
KW   acquired immune deficiency syndrome; severe acute respiratory syndrome;
KW   plasmodium infection; meningitis; hepatitis; Alzheimers disease;
KW   antiinflammatory; cytostatic; antirheumatic; antiarthritic; antiallergic;
KW   antipsoriatic; anti-HIV; antiarteriosclerotic; immunosuppressive;
KW   vasotropic; cerebroprotective; dermatological; immunomodulator;
KW   antimalarial; antibacterial; hepatotropic; neuroprotective; nootropic;
KW   mutein.
XX
OS   Homo sapiens.
OS   Synthetic.
XX
PN   WO2005066206-A1.
XX
PD   21-JUL-2005.
XX
PF   05-JAN-2005; 2005WO-JP000032.
XX
PR   06-JAN-2004; 2004JP-00001427.
XX
PA   (HAYB ) HAYASHIBARA SEIBUTSU KAGAKU.
PA   (MAYU/) MAYUMI T.
PA   (TSUT/) TSUTSUMI Y.
PA   (NAKA/) NAKAGAWA S.
XX
PI   Mayumi T,  Tsutsumi Y,  Nakagawa S,  Ohta T;
XX
DR   WPI; 2005-506850/51.
DR   N-PSDB; AEB45495.
XX
PT   Novel tumor necrosis factor TNF mutant protein, useful for treating
PT   and/or preventing diseases such as inflammation, and other diseases
PT   caused by overexpression of TNF, such as autoimmune diseases, tumor,
PT   rheumatoid arthritis, allergy.
XX
PS   Claim 5; SEQ ID NO 56; 34pp; Japanese.
XX
CC   The invention relates to tumor necrosis factor (TNF) mutant proteins,
CC   particularly tumor necrosis factor mutant proteins specific for TNF-R1 or
CC   TNF-R2 (SEQ ID Nos 19-22 and 37-59 respectively). The invention discloses
CC   a TNF mutant protein comprising an amino acid sequence derived from the
CC   human TNF-alpha protein (given as SEQ ID No: 1) by the substitution of
CC   one or more amino acid residues at 29, 31, 32, 145, 146 and 147 from the
CC   N-terminus, and amino acid residues at positions 84-89 by other amino
CC   acid residue(s). Also described are: (1) a TNF inhibitor comprising a TNF
CC   mutant protein; and (2) a TNF formulation comprising a TNF mutant
CC   protein. The TNF mutant proteins are useful for treating and/or
CC   preventing diseases such as inflammation, and other diseases caused by
CC   overexpression of TNF, such as autoimmune diseases, tumors (e.g. colon
CC   cancer, rectal cancer, uterine cancer, brain tumor, leukemia, lymphoma),
CC   Crohn's disease, rheumatoid arthritis, allergies, psoriasis, cachexia,
CC   transplant rejection, stroke, ischemia, restenosis, AIDS, severe acute
CC   respiratory syndrome (SARS), atherosclerosis, Behcet's disease, systemic
CC   lupus erythematosus, malaria, meningitis, hepatitis, Alzheimer's disease,
CC   etc. The TNF mutant proteins are highly stable in vivo. This sequence
CC   represents a human TNF-alpha mutant protein specific for TNF-R2. Note:
CC   The sequence data for this patent did not form part of the printed
CC   specification, but was obtained in electronic format directly from WIPO
CC   at ftp.wipo.int/pub/published_pct_sequences.
XX
SQ   Sequence 157 AA;

  Query Match             97.1%;  Score 790;  DB 9;  Length 157;
  Best Local Similarity   96.8%;  Pred. No. 2.9e-73;
  Matches  152;  Conservative    2;  Mismatches    3;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              |||||||||||||||||||||: :|  ||||||||||||||||||||||||||||||
Db         61 QVLFSGQGCPSTHVLLTHTISRISKTYSHPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              |||||||||||||||||||||||||||||||||||||
Db        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


Search completed: May  5, 2006, 11:26:32
Job time : 74.25 secs
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GenCore version 5.1.7

OM protein - protein search, using sw model

Run on: May 5, 2006, 11:21:42 ; Search time 18 Seconds
(without alignments)
839.224 Million cell updates/sec

Title: US-10-668-178-3
Perfect score: 814
Sequence: 1 VRSSSRTPSDMPVAHVVANP.....RPDYLDFAESGQVYFGIIAL 157

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 283416 seqs, 96216763 residues

Total number of hits satisfying chosen parameters: 283416

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : PIR_80:*
1: pir1:*
2: pir2:*
3: pir3:*
4: pir4:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	779	95.7	233	1	QWHUN	tumor necrosis fac
2	772	94.8	233	1	S22052	tumor necrosis fac
3	712	87.5	233	2	S11688	tumor necrosis fac
4	697	85.6	234	1	JQ1344	tumor necrosis fac
5	677.5	83.2	232	1	S12606	tumor necrosis fac
6	634.5	77.9	235	1	QWMSN	tumor necrosis fac
7	633.5	77.8	234	1	A25451	tumor necrosis fac
8	631	77.5	185	2	S52715	tumor necrosis fac
9	631	77.5	233	1	S24642	tumor necrosis fac
10	629	77.3	234	1	JH0529	tumor necrosis fac
11	628.5	77.2	235	2	I54490	tumor necrosis fac
12	624.5	76.7	193	2	S06192	tumor necrosis fac
13	619.5	76.1	235	2	JU0029	tumor necrosis fac
14	258.5	31.8	197	1	JH0309	tumor necrosis fac
15	250.5	30.8	204	1	S24641	lymphotoxin - bovi
16	247.5	30.4	204	1	S17289	tumor necrosis fac
17	238	29.2	202	1	JN0869	tumor necrosis fac
18	236.5	29.1	202	1	B27303	tumor necrosis fac
19	213.5	26.2	205	1	QWHUX	lymphotoxin alpha
20	173	21.3	244	2	A46066	lymphotoxin beta -
21	166.5	20.5	278	2	A49266	fas ligand - rat
22	161.5	19.8	279	2	A53062	Fas ligand - mouse
23	149	18.3	281	2	I38707	Fas ligand - human
24	143	17.6	306	2	I49139	lymphotoxin-beta -
25	129	15.8	261	2	I53476	CD40 ligand - huma
26	127	15.6	260	2	S21738	CD40 ligand - mous
27	116	14.3	261	2	S53090	CD40 ligand - bovi
28	80	9.8	1560	2	T09202	probable tail comp
29	77.5	9.5	675	2	E75393	hypothetical prote
30	77	9.5	468	2	AC3595	UDP-N-acetylglucos
31	76	9.3	286	2	E91277	probable oxidoredu
32	76	9.3	286	2	E86118	probable oxidoredu
33	74.5	9.2	403	2	I54192	aminomethyltransfe
34	74.5	9.2	479	2	F70965	hypothetical prote
35	74	9.1	286	2	S56436	hypothetical 29.7K
36	74	9.1	473	2	A47050	glutamate-ammonia
37	73.5	9.0	217	2	F86343	hypothetical prote
38	73.5	9.0	352	2	T51835	3-methyl-2-oxobuta
39	73	9.0	533	2	B83813	catalase katX [imp
40	73	9.0	1626	2	T09271	probable tail comp
41	72.5	8.9	385	2	AH2269	heterocyst specifi
42	72.5	8.9	1336	2	T17479	hypothetical prote
43	72.5	8.9	2352	2	C83229	probable non-ribos
44	72	8.8	339	2	T49597	hypothetical prote
45	72	8.8	1369	2	D86178	hypothetical prote

ALIGNMENTS

RESULT 1
QWHUN
tumor necrosis factor alpha precursor [validated] - human
N;Alternate names: cachectin; TNFA
C;Species: Homo sapiens (man)
C;Date: 28-Aug-1985 #sequence_revision 28-Aug-1985 #text_change 09-Jul-2004
C;Accession: A93585; S36153; A93351; A44189; B61478; I53311; S62610; I54522; A01646; B2
R;Nedwin, G.E.; Naylor, S.L.; Sakaguchi, A.Y.; Smith, D.; Jarrett-Nedwin, J.; Pennica, D
Nucleic Acids Res. 13, 6361-6373, 1985
A;Title: Human lymphotoxin and tumor necrosis factor genes: structure, homology and chro
A;Reference number: A93585; MUID:86016093; PMID:2995927
A;Accession: A93585
A;Molecule type: DNA
A;Residues: 1-233 <NED>
A;Cross-references: UNIPROT:P01375; UNIPARC:UPI000000D745; GB:X02910; GB:X02159; NID:g3
R;Iris, F.J.M.; Bougueleret, L.; Prieur, S.; Caterina, D.; Primas, G.; Perrot, V.; Jurk
Nature Genet. 3, 137-145, 1993
A;Title: Dense Alu clustering and a potential new member of the NFkappaB family within
A;Reference number: S36152; MUID:93272029; PMID:8499947
A;Accession: S36153
A;Status: nucleic acid sequence not shown; translation not shown
A;Molecule type: DNA
A;Residues: 1-233 <IRI>
A;Cross-references: UNIPARC:UPI000000D745; EMBL:Z15026; NID:g37211; PIDN:CAA78745.1; PI
A;Note: the nucleotide sequence was submitted to the EMBL Data Library, August 1992
R;Pennica, D.; Nedwin, G.E.; Hayflick, J.S.; Seeburg, P.H.; Derynck, R.; Palladino, M.A
Nature 312, 724-729, 1984
A;Title: Human tumour necrosis factor: precursor structure, expression and homology to
A;Reference number: A93351; MUID:85086244; PMID:6392892
A;Accession: A93351
A;Molecule type: mRNA
A;Residues: 1-233 <PEN>
A;Cross-references: UNIPARC:UPI000000D745; GB:X02910; GB:X02159; NID:g37209; PIDN:CAA26
A;Note: this protein was isolated from the monocyte-like cell line HL-60 from a promyel
R;Wang, A.M.; Creasey, A.A.; Ladner, M.B.; Lin, L.S.; Strickler, J.; Van Arsdell, J.N.;
Science 228, 149-154, 1985
A;Title: Molecular cloning of the complementary DNA for human tumor necrosis factor.
A;Reference number: A44189; MUID:85142190; PMID:3856324
A;Accession: A44189
A;Molecule type: mRNA
A;Residues: 1-62,'S',64-233 <WAN>
A;Cross-references: UNIPARC:UPI000002FB8A; GB:M10988; NID:g339737; PIDN:AAA61198.1; PID
R;Fukuda, S.; Ando, S.; Sanou, O.; Taniai, M.; Fujii, M.; Masaki, N.; Nakamura, K.I.; A
Lymphokine Res. 7, 175-185, 1988
A;Title: Simultaneous production of natural human tumor necrosis factor-alpha, -beta an
A;Reference number: A61478; MUID:88301617; PMID:2841543
A;Accession: B61478
A;Molecule type: protein
A;Residues: 83-102;109-119;121-128,'X',130-131;142-144,'X',146,'XXX',150-152;159-174;18
A;Cross-references: UNIPARC:UPI00001735C7; UNIPARC:UPI00001735C8; UNIPARC:UPI00001735C9
R;Marmenout, A.; Fransen, L.; Tavernier, J.; Van Der Heyden, J.; Tizard, R.; Kawashima,
Eur. J. Biochem. 152, 515-522, 1985

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A;Title: Molecular cloning and expression of human tumor necrosis factor and comparison
A;Reference number: I53311; MUID:86030296; PMID:3932069
A;Accession: I53311
A;Status: translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-233 <MAR>
A;Cross-references: UNIPARC:UPI000000D745; GB:M26331; NID:g339763; PIDN:AAA36758.1; PID:
A;Experimental source: U-937 cells
R;Takakura-Yamamoto, R.; Yamamoto, S.; Fukuda, S.; Kurimoto, M.
Eur. J. Biochem. 235, 431-437, 1996
A;Title: O-Glycosylated species of natural human tumor-necrosis factor-alpha.
A;Reference number: S62610; MUID:96202967; PMID:8631363
A;Accession: S62610
A;Molecule type: protein
A;Residues: 77-99 <TAK>
A;Cross-references: UNIPARC:UPI00001735CD
R;D'Alfonso, S.; Richiardi, P.M.
Immunogenetics 39, 150-154, 1994
A;Title: A polymorphic variation in a putative regulation box of the TNFA promoter regic
A;Reference number: I54522; MUID:94102809; PMID:7903959
A;Accession: I54522
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-8 <DAL>
A;Cross-references: UNIPARC:UPI00001735CE; GB:S68530; NID:g544751
R;Stevenson, F.T.; Bursten, S.L.; Locksley, R.M.; Lovett, D.H.
J. Exp. Med. 176, 1053-1062, 1992
A;Title: Myristyl acylation of the tumor necrosis factor alpha precursor on specific lys
A;Reference number: A59163; MUID:93018820; PMID:1402651
A;Contents: annotation; identification of myristylated lysines
R;Aggarwal, B.B.; Kohr, W.J.; Hass, P.E.; Moffat, B.; Spencer, S.A.; Henzel, W.J.; Bring
J. Biol. Chem. 260, 2345-2354, 1985
A;Title: Human tumor necrosis factor. Production, purification, and characterization.
A;Reference number: A92511; MUID:85130974; PMID:3871770
A;Contents: annotation; disulfide bond
C;Comment: Secreted from mitogen-activated macrophages within 4-24 hours after induction
out detriment to normal cells. It can also act synergistically with interferon gamma to
C;Comment: TNF-alpha and -beta (lymphotoxin) are the products of different genes closely
ut are produced by different cell types and have different induction kinetics.
C;Genetics:
A;Gene: GDB:TNF; TNFA
A;Cross-references: GDB:120441; OMIM:191160
A;Map position: 6p21.3-6p21.3
A;Introns: 62/3; 78/1; 94/1
C;Complex: homotrimer
C;Superfamily: tumor necrosis factor
C;Keywords: cytokine; cytotoxin; glycoprotein; homotrimer; lipoprotein; lymphokine; macr
F;1-76/Domain: propeptide #status predicted <PRO>
F;77-233/Product: tumor necrosis factor #status experimental <MAT>
F;19,20/Binding site: myristate (Lys) (covalent) #status experimental
F;81/Binding site: carbohydrate (Ser) (covalent) (partial) #status experimental
F;145-177/Disulfide bonds: #status experimental

  Query Match             95.7%;  Score 779;  DB 1;  Length 233;
  Best Local Similarity   96.2%;  Pred. No. 4.9e-72;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||
Db         77 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 136

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              |||| |||||||||||||||||||||| |||||||:||||||||||||| ||||||||
Db        137 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 196

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| |||||||||||||||||||||||||||||
Db        197 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 233


RESULT 2
S22052
tumor necrosis factor alpha precursor - baboon
C;Species: Papio sp. (baboon)
C;Date: 10-Sep-1999 #sequence_revision 10-Sep-1999 #text_change 09-Jul-2004
C;Accession: S22052
R;Sanjanwala, M.; Edwards, A.
submitted to the EMBL Data Library, September 1991
A;Description: Baboon Tumor Necrosis Factor Derived from Sequences of Genomic DNA.
A;Reference number: S22052
A;Accession: S22052
A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-233 <SAN>
A;Cross-references: UNIPROT:P33620; UNIPARC:UPI00001370C4; EMBL:X62141; NID:g38159; PIDN
C;Genetics:
A;Introns: 62/3; 78/1; 94/1
C;Superfamily: tumor necrosis factor
C;Keywords: glycoprotein; lipoprotein; myristylation; transmembrane protein
F;19,20/Binding site: myristate (Lys) (covalent) #status predicted
F;81/Binding site: carbohydrate (Ser) (covalent) #status predicted
F;145-177/Disulfide bonds: #status predicted

  Query Match             94.8%;  Score 772;  DB 1;  Length 233;
  Best Local Similarity   95.5%;  Pred. No. 2.5e-71;
  Matches  150;  Conservative    1;  Mismatches    6;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||
Db         77 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 136

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              |||| |||||||||||||||||||||| |||||||:||||||||||||| ||||||||
Db        137 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 196

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| |||||||||||||||||||||||||||||
Db        197 GGVFQLEKGDRLSAEINLPDYLDFAESGQVYFGIIAL 233


RESULT 3
S11688
tumor necrosis factor alpha precursor - cat
C;Species: Felis silvestris catus (domestic cat)
C;Date: 21-Nov-1993 #sequence_revision 10-Nov-1995 #text_change 09-Jul-2004
C;Accession: S11688
R;McGraw, R.A.; Coffee, B.W.; Otto, C.M.; Drews, R.T.; Rawlings, C.A.
Nucleic Acids Res. 18, 5563, 1990
A;Title: Gene sequence of feline tumor necrosis factor alpha.
A;Reference number: S11688; MUID:91016860; PMID:2216740
A;Accession: S11688
A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-233 <MCG>
A;Cross-references: UNIPROT:P19101; UNIPARC:UPI00001370BE; EMBL:X54000; NID:g1084; PIDN:
C;Genetics:
A;Introns: 62/3; 78/1; 94/1
C;Superfamily: tumor necrosis factor
C;Keywords: glycoprotein; lipoprotein; myristylation; transmembrane protein
F;19,20/Binding site: myristate (Lys) (covalent) #status predicted
F;81/Binding site: carbohydrate (Ser) (covalent) #status predicted
F;145-177/Disulfide bonds: #status predicted

  Query Match             87.5%;  Score 712;  DB 2;  Length 233;
  Best Local Similarity   88.5%;  Pred. No. 3.4e-65;
  Matches  139;  Conservative    6;  Mismatches   12;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              :|||||||||| |||||||||:|||||| |:||||||||||||| |||| |||:|||||||
Db         77 LRSSSRTPSDKPVAHVVANPEAEGQLQRLSRRANALLANGVELTDNQLKVPSDGLYLIYS 136

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              ||||:||||||||||||| ||| |||||| |||||||:||||||||||||| ||||||||
Db        137 QVLFTGQGCPSTHVLLTHAISRFAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 196

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
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                ||||||| ||||| ||| | ||||||||||||||||||
Db        197 GGVFQLEKGDRLSTEINLPAYLDFAESGQVYFGIIAL 233


RESULT 4
JQ1344
tumor necrosis factor alpha precursor - horse
N;Alternate names: cachectin; TNF alpha
C;Species: Equus caballus (domestic horse)
C;Date: 10-Sep-1999 #sequence_revision 10-Sep-1999 #text_change 09-Jul-2004
C;Accession: JQ1344
R;Su, X.; Morris, D.D.; McGraw, R.A.
Gene 107, 319-321, 1991
A;Title: Cloning and characterization of gene TNF alpha encoding equine tumor necrosis f
A;Reference number: JQ1344; MUID:92084125; PMID:1748301
A;Accession: JQ1344
A;Molecule type: DNA
A;Residues: 1-234 <SUX>
A;Cross-references: UNIPROT:P29553; UNIPARC:UPI00001370BF; GB:M64087; NID:g164244; PIDN:
C;Comment: This protein is an important proximal mediator of endotoxemia.
C;Genetics:
A;Gene: TNF-alpha
A;Introns: 62/3; 79/1; 95/1
C;Superfamily: tumor necrosis factor
C;Keywords: cytokine; cytotoxin; glycoprotein; lipoprotein; lymphokine; macrophage; memb
F;78-234/Product: tumor necrosis factor alpha #status predicted <TUM>
F;19,20/Binding site: myristate (Lys) (covalent) #status predicted
F;82/Binding site: carbohydrate (Ser) (covalent) #status predicted
F;146-178/Disulfide bonds: #status predicted

  Query Match             85.6%;  Score 697;  DB 1;  Length 234;
  Best Local Similarity   85.4%;  Pred. No. 1.2e-63;
  Matches  134;  Conservative   11;  Mismatches   12;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              :|||||||||| ||||||||||||||||||: ||||||||||:| ||||||| :|||||||
Db         78 LRSSSRTPSDKPVAHVVANPQAEGQLQWLSGRANALLANGVKLTDNQLVVPLDGLYLIYS 137

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              |||| ||||||||||||||||:|||| : |||||||:|||  |:|| ||| ||||||||
Db        138 QVLFKGQGCPSTHVLLTHTISRLAVSYPSKVNLLSAIKSPCHTESPEQAEAKPWYEPIYL 197

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||:|||||:|:||||||||||||||||||
Db        198 GGVFQLEKGDQLSAEINQPNYLDFAESGQVYFGIIAL 234


RESULT 5
S12606
tumor necrosis factor alpha precursor - pig
C;Species: Sus scrofa domestica (domestic pig)
C;Date: 10-Sep-1999 #sequence_revision 10-Sep-1999 #text_change 09-Jul-2004
C;Accession: S12606; S17290; S18965; I46659
R;Drews, R.T.; Coffee, B.W.; Prestwood, A.K.; McGraw, R.A.
Nucleic Acids Res. 18, 5564, 1990
A;Title: Gene sequence of porcine tumor necrosis factor alpha.
A;Reference number: S12606; MUID:91016861; PMID:2216741
A;Accession: S12606
A;Molecule type: DNA
A;Residues: 1-232 <DRE>
A;Cross-references: UNIPROT:P23563; UNIPARC:UPI00001370C6; EMBL:X54001; NID:g2135; PIDN:
R;Kuhnert, P.; Wuethrich, C.; Peterhans, E.; Pauli, U.
Gene 102, 171-178, 1991
A;Title: The porcine tumor necrosis factor-encoding genes: sequence and comparative anal
A;Reference number: S17289; MUID:91340150; PMID:1874444
A;Accession: S17290
A;Molecule type: DNA
A;Residues: 1-232 <KUH>
A;Cross-references: UNIPARC:UPI00001370C6; EMBL:X54859; NID:g2132; PIDN:CAA38639.1; PID:
A;Note: the authors translated the codon GAG for residue 202 as Gly
R;Choi, C.S.; Molitor, T.W.; Lin, G.F.; Murtaugh, M.P.
submitted to the EMBL Data Library, January 1991
A;Description: Complete nucleotide sequence of a cDNA encoding porcine tumor necrosis fa
A;Reference number: S18965
A;Accession: S18965
A;Molecule type: mRNA
A;Residues: 1-232 <CHO>
A;Cross-references: UNIPARC:UPI00001370C6; EMBL:X57321; NID:g2137; PIDN:CAA40591.1; PID:
R;Pauli, U.; Beutler, B.; Peterhans, E.
Gene 81, 185-191, 1989
A;Title: Porcine tumor necrosis factor alpha: Cloning with the polymerase chain reactior
A;Reference number: I46659; MUID:90034181; PMID:2478420
A;Accession: I46659
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: mRNA
A;Residues: 44-232 <PAU>
A;Cross-references: UNIPARC:UPI000016C6F7; GB:M29079; NID:g164694; PIDN:AAA31128.1; PID:
C;Genetics:
A;Introns: 62/3; 78/1; 93/1
C;Superfamily: tumor necrosis factor
C;Keywords: cytokine; cytotoxin; glycoprotein; lipoprotein; lymphokine; macrophage; myri
F;1-77/Domain: propeptide #status predicted <PRO>
F;78-232/Product: tumor necrosis factor alpha #status predicted <MAT>
F;19,20/Binding site: myristate (Lys) (covalent) #status predicted
F;81/Binding site: carbohydrate (Ser) (covalent) #status predicted
F;144-176/Disulfide bonds: #status predicted

  Query Match             83.2%;  Score 677.5;  DB 1;  Length 232;
  Best Local Similarity   85.4%;  Pred. No. 1.1e-61;
  Matches  134;  Conservative   10;  Mismatches   12;  Indels    1;  Gaps    1;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              :||||:| || |||||||| :||||||| :  |||||||||:|:||||||::|||||||
Db         77 LRSSSQT-SDKPVAHVVANVKAEGQLQWQSGYANALLANGVKLKDNQLVVPTDGLYLIYS 135

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              |||| |||||||:| |||||||||||||| |||||||:||||||||||| ||||||||
Db        136 QVLFRGQGCPSTNVFLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 195

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              |||||||  |||||||| ||||||||||||||||||
Db        196 GGVFQLEKDDRLSAEINLPDYLDFAESGQVYFGIIAL 232


RESULT 6
QWMSN
tumor necrosis factor alpha precursor - mouse
N;Alternate names: cachectin; TNF alpha
C;Species: Mus musculus (house mouse)
C;Date: 31-Mar-1988 #sequence_revision 31-Mar-1988 #text_change 09-Jul-2004
C;Accession: A22908; S03791; A27303; A25164; A23127; A34251; I59058; A36696
R;Shirai, T.; Shimizu, N.; Shiojiri, S.; Horiguchi, S.; Ito, H.
DNA 7, 193-201, 1988
A;Title: Cloning and expression in Escherichia coli of the gene for mouse tumor necrosi
A;Reference number: A22908; MUID:88224564; PMID:2836146
A;Accession: A22908
A;Molecule type: DNA
A;Residues: 1-235 <SHI>
A;Cross-references: UNIPROT:P06804; UNIPARC:UPI0000022334; GB:M20155
R;Shakhov, A.N.; Nedospasov, S.A.
Bioorg. Khim. 13, 701-705, 1987
A;Title: Molecular cloning of the genes coding for tumor necrosis factors: complete nuc
A;Reference number: S03791; MUID:87298639; PMID:3040015
A;Accession: S03791
A;Molecule type: DNA
A;Residues: 1-235 <SHA>
A;Cross-references: UNIPARC:UPI0000022334; GB:M38296; NID:g202086; PIDN:AAA40459.1; PID
A;Note: article in Russian with English abstract
R;Semon, D.; Kawashima, E.; Jongeneel, C.V.; Shakhov, A.N.; Nedospasov, S.A.
Nucleic Acids Res. 15, 9083-9084, 1987
A;Title: Nucleotide sequence of the murine TNF locus, including the TNF-alpha-(tumor ne
A;Reference number: A93679; MUID:88067722; PMID:3684584
A;Accession: A27303
A;Molecule type: DNA
A;Residues: 1-235 <SEM>
A;Cross-references: UNIPARC:UPI0000022334; GB:Y00467; NID:g54830; PIDN:CAA68530.1; PID:
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R;Pennica, D.; Hayflick, J.S.; Bringman, T.S.; Palladino, M.A.; Goeddel, D.V.
Proc. Natl. Acad. Sci. U.S.A. 82, 6060-6064, 1985
A;Title: Cloning and expression in Escherichia coli of the cDNA for murine tumor necrosi
A;Reference number: A25164; MUID:85298296; PMID:3898078
A;Accession: A25164
A;Molecule type: mRNA
A;Residues: 1-235 <PEN>
A;Cross-references: UNIPARC:UPI0000022334; GB:M11731; NID:g202084; PIDN:AAA40458.1; PID:
R;Fransen, L.; Muller, R.; Marmenout, A.; Tavernier, J.; van der Heyden, J.; Kawashima,
Nucleic Acids Res. 13, 4417-4429, 1985
A;Title: Molecular cloning of mouse tumour necrosis factor cDNA and its eukaryotic expre
A;Reference number: A23127; MUID:85242112; PMID:2989794
A;Accession: A23127
A;Molecule type: mRNA
A;Residues: 1-235 <FRA>
A;Cross-references: UNIPARC:UPI0000022334; GB:X02611; NID:g54844; PIDN:CAA26457.1; PID:g
R;Cseh, K.; Beutler, B.
J. Biol. Chem. 264, 16256-16260, 1989
A;Title: Alternative cleavage of the cachectin/tumor necrosis factor propeptide results
A;Reference number: A34251; MUID:89380231; PMID:2777790
A;Accession: A34251
A;Molecule type: protein
A;Residues: 70-87 <CSE>
A;Cross-references: UNIPARC:UPI00001735CF
R;Caput, D.; Beutler, B.; Hartog, K.; Thayer, R.; Brown-Shimer, S.L.; Cerami, A.
Proc. Natl. Acad. Sci. U.S.A. 83, 1670-1674, 1986
A;Title: Identification of a common nucleotide sequence in the 3'-untranslated region of
A;Reference number: I59058; MUID:86149365; PMID:2419912
A;Accession: I59058
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: mRNA
A;Residues: 1-230,'R',232-235 <RES>
A;Cross-references: UNIPARC:UPI000016D086; GB:M13049; NID:g202082; PIDN:AAA40457.1; PID:
R;Sherry, B.; Jue, D.M.; Zentella, A.; Cerami, A.
Biochem. Biophys. Res. Commun. 173, 1072-1078, 1990
A;Title: Characterization of high molecular weight glycosylated forms of murine tumor ne
A;Reference number: A36696; MUID:91097531; PMID:2268312
A;Accession: A36696
A;Molecule type: protein
A;Residues: 80-85,'X',87-99 <SHE>
A;Cross-references: UNIPARC:UPI00001735D0
C;Genetics:
A;Introns: 62/3; 81/1; 97/1
A;Note: the first intron occurs in the 5'-untranslated region
C;Superfamily: tumor necrosis factor
C;Keywords: cytokine; cytotoxin; glycoprotein; lipoprotein; lymphokine; macrophage; memb
F;80-235/Product: tumor necrosis factor #status experimental <MAT>
F;20/Binding site: myristate (Lys) (covalent) #status predicted
F;84/Binding site: carbohydrate (Ser) (covalent) #status predicted
F;86/Binding site: carbohydrate (Asn) (covalent) #status predicted
F;148-179/Disulfide bonds: #status predicted

  Query Match             77.9%;  Score 634.5;  DB 1;  Length 235;
  Best Local Similarity   75.2%;  Pred. No. 2.9e-57;
  Matches  118;  Conservative   21;  Mismatches   17;  Indels    1;  Gaps    1;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              :||||:  || |||||||| | | ||:||::||||||||||::|:|||||||::||||:||
Db         80 LRSSSQNSSDKPVAHVVANHQVEEQLEWLSQRANALLANGMDLKDNQLVVPADGLYLVYS 139

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              |||| |||||  :||||||:|| |:|||  ||||||::||| ::||||||  ||||||||
Db        140 QVLFKGQGCPD-YVLLTHTVSRFAISYQEKVNLLSAVKSPCPKDTPEGAELKPWYEPIYL 198

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||:||||:| | |||||||||||||:|||
Db        199 GGVFQLEKGDQLSAEVNLPKYLDFAESGQVYFGVIAL 235


RESULT 7
A25451
tumor necrosis factor alpha precursor - rabbit
N;Alternate names: cachectin; TNF alpha
C;Species: Oryctolagus cuniculus (domestic rabbit)
C;Date: 10-Sep-1999 #sequence_revision 10-Sep-1999 #text_change 09-Jul-2004
C;Accession: A25454; A25451; JS0727
R;Ito, H.; Yamamoto, S.; Kuroda, S.; Sakamoto, H.; Kajihara, J.; Kiyota, T.; Hayashi, H.
DNA 5, 149-156, 1986
A;Title: Molecular cloning and expression in Escherichia coli of the cDNA coding for rab
A;Reference number: A25454; MUID:86219711; PMID:3519137
A;Accession: A25454
A;Molecule type: mRNA
A;Residues: 1-234 <ITO>
A;Cross-references: UNIPROT:P04924; UNIPARC:UPI000016C5C2; GB:M12845; NID:g165759; PIDN:
R;Ito, H.; Shirai, T.; Yamamoto, S.; Akira, M.; Kawahara, S.; Todd, C.W.; Wallace, R.B.
DNA 5, 157-165, 1986
A;Title: Molecular cloning of the gene encoding rabbit tumor necrosis factor.
A;Reference number: A25451; MUID:86219712; PMID:3519138
A;Accession: A25451
A;Molecule type: DNA
A;Residues: 1-234 <IT2>
A;Cross-references: UNIPARC:UPI000016C5C2
A;Note: this sequence differs from that shown in having a Gln inserted between residues
R;Shakhov, A.N.; Kuprash, D.V.; Azizov, M.M.; Jongeneel, C.V.; Nedospasov, S.A.
Gene 95, 215-221, 1990
A;Title: Structural analysis of the rabbit TNF locus, containing the genes encoding TNF-
A;Reference number: JH0309; MUID:91065534; PMID:2249779
A;Accession: JS0727
A;Status: nucleic acid sequence not shown; translation not shown
A;Molecule type: DNA
A;Residues: 1-62,'Q',63-234 <SHA>
A;Cross-references: UNIPARC:UPI00001370C7; GB:M60340; GB:M35326; NID:g165754; PIDN:AAA31
C;Genetics:
A;Introns: 62/3; 80/1; 96/1
C;Superfamily: tumor necrosis factor
C;Keywords: cytokine; cytotoxin; glycoprotein; lipoprotein; lymphokine; macrophage; memb
F;1-81/Domain: propeptide #status predicted <PRO>
F;82-234/Product: tumor necrosis factor #status predicted <MAT>
F;19,20/Binding site: myristate (Lys) (covalent) #status predicted
F;83/Binding site: carbohydrate (Ser) (covalent) #status predicted
F;147-178/Disulfide bonds: #status predicted

  Query Match             77.8%;  Score 633.5;  DB 1;  Length 234;
  Best Local Similarity   78.3%;  Pred. No. 3.7e-57;
  Matches  123;  Conservative   15;  Mismatches   18;  Indels    1;  Gaps    1;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              :||:||  || |:||||||| |||||||::||||||||::| |||||||::|||||||
Db         79 LRSASRALSDKPLAHVVANPQVEGQLQWLSQRANALLANGMKLTDNQLVVPADGLYLIYS 138

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              ||||||||| | :||||||:|| ||||   |||||||:||| ||||| ||   |||||||
Db        139 QVLFSGQGCRS-YVLLTHTVSRFAVSYPNKVNLLSAIKSPCHRETPEEAEPMAWYEPIYL 197

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||| |:|:|:||| ||||||||||||
Db        198 GGVFQLEKGDRLSTEVNQPEYLDLAESGQVYFGIIAL 234


RESULT 8
S52715
tumor necrosis factor alpha precursor - bovine (fragment)
C;Species: Bos primigenius taurus (cattle)
C;Date: 19-May-1995 #sequence_revision 21-Jul-1995 #text_change 04-Feb-2000
C;Accession: S52715
R;Mertens, B.; Gaidulis, L.
submitted to the EMBL Data Library, March 1995
A;Description: Cloning and sequence analysis of cDNAs encoding bovine CD40 ligand and bo
A;Reference number: S52715
A;Accession: S52715
A;Status: preliminary
A;Molecule type: mRNA
A;Residues: 1-185 <MER>
A;Cross-references: UNIPARC:UPI000016C282; EMBL:Z48808; NID:g755701; PIDN:CAA88743.1; PI
C;Superfamily: tumor necrosis factor
C;Keywords: glycoprotein
```

```
F;33/Binding site: carbohydrate (Ser) (covalent) #status predicted
F;97-129/Disulfide bonds: #status predicted

  Query Match             77.5%;  Score 631;  DB 2;  Length 185;
  Best Local Similarity   77.7%;  Pred. No. 4.9e-57;
  Matches  122;  Conservative   15;  Mismatches   20;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              :||||:  |: |||||||:  : |||:| :  ||||:||||:| |||||||::|||||||
Db         29 LRSSSQASSNKPVAHVVADINSPGQLRWWDSYANALMANGVKLEDNQLVVPADGLYLIYS 88

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              |||| ||||||| : |||||||||||||| ||:||||:||| ||||| ||| |||||||
Db         89 QVLFRGQGCPSTPLFLTHTISRIAVSYQTKVNILSAIKSPCHRETPEWAEAKPWYEPIYQ 148

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||| |||||:||||||||||||
Db        149 GGVFQLEKGDRLSAEINLPDYLDYAESGQVYFGIIAL 185


RESULT 9
S24642
tumor necrosis factor alpha precursor - bovine
C;Species: Bos primigenius taurus (cattle)
C;Date: 10-Sep-1999 #sequence_revision 10-Sep-1999 #text_change 09-Jul-2004
C;Accession: I46047; S24642
R;Cludts, I.; Cleuter, Y.; Kettmann, R.; Burny, A.; Droogmans, L.
Cytokine 5, 336-341, 1993
A;Title: Cloning and characterization of the tandemly arranged bovine lymphotoxin and tu
A;Reference number: I46046; MUID:94083525; PMID:8260599
A;Accession: I46047
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-233 <CL2>
A;Cross-references: UNIPROT:Q06599; UNIPARC:UPI00001370B8; EMBL:Z14137; NID:g796; PIDN:C
C;Genetics:
A;Gene: TNFA
A;Introns: 62/3; 78/1; 94/1
C;Superfamily: tumor necrosis factor
C;Keywords: glycoprotein; lipoprotein; myristylation; transmembrane protein
F;20/Binding site: myristate (Lys) (covalent) #status predicted
F;81/Binding site: carbohydrate (Ser) (covalent) #status predicted
F;145-177/Disulfide bonds: #status predicted

  Query Match             77.5%;  Score 631;  DB 1;  Length 233;
  Best Local Similarity   77.7%;  Pred. No. 6.6e-57;
  Matches  122;  Conservative   15;  Mismatches   20;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              :||||:  |: |||||||:  : |||:| :  ||||:||||:| |||||||::|||||||
Db         77 LRSSSQASSNKPVAHVVADINSPGQLRWWDSYANALMANGVKLEDNQLVVPADGLYLIYS 136

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              |||| ||||||| : |||||||||||||| ||:||||:||| ||||| ||| |||||||
Db        137 QVLFRGQGCPSTPLFLTHTISRIAVSYQTKVNILSAIKSPCHRETPEWAEAKPWYEPIYQ 196

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||| |||||:||||||||||||
Db        197 GGVFQLEKGDRLSAEINLPDYLDYAESGQVYFGIIAL 233


RESULT 10
JH0529
tumor necrosis factor alpha precursor - sheep
N;Alternate names: cachectin; TNF alpha
C;Species: Ovis orientalis aries, Ovis ammon aries (domestic sheep)
C;Date: 10-Sep-1999 #sequence_revision 10-Sep-1999 #text_change 09-Jul-2004
C;Accession: JH0529; S48118; S13114; S20661
R;Green, I.R.; Sargan, D.R.
Gene 109, 203-210, 1991
A;Title: Sequence of the cDNA encoding ovine tumor necrosis factor-alpha: problems with
A;Reference number: JH0529; MUID:92112044; PMID:1765267
A;Accession: JH0529
A;Molecule type: mRNA
A;Residues: 1-234 <GRE>
A;Cross-references: UNIPROT:P23383; UNIPARC:UPI000002CD39; EMBL:X55152; NID:g1405; PIDN
A;Experimental source: alveolar macrophage
R;Nash, A.D.; Barcham, G.J.; Brandon, M.R.; Andrews, A.E.
Immunol. Cell Biol. 69, 273-283, 1991
A;Title: Molecular cloning, expression and characterization of ovine TNF-alpha.
A;Reference number: S48118; MUID:92155784; PMID:1786996
A;Accession: S48118
A;Status: preliminary
A;Molecule type: mRNA
A;Residues: 1-234 <NAS>
A;Cross-references: UNIPARC:UPI000002CD39; EMBL:X56756; NID:g297806; PIDN:CAA40076.1; P
R;Young, A.J.; Hay, J.B.; Chan, J.Y.C.
Nucleic Acids Res. 18, 6723, 1990
A;Title: Primary structure of ovine tumor necrosis factor alpha cDNA.
A;Reference number: S13114; MUID:91067496; PMID:2251151
A;Accession: S13114
A;Status: preliminary
A;Molecule type: mRNA
A;Residues: 1-62,64-234 <YOU>
A;Cross-references: UNIPARC:UPI000016C4EC; EMBL:X55966; NID:g1403; PIDN:CAA39437.1; PID
A;Note: comparison with the introns of homologous sequences suggest that this is probab
C;Superfamily: tumor necrosis factor
C;Keywords: alternative splicing; cytokine; cytotoxin; glycoprotein; lipoprotein; lymph
F;1-77/Domain: propeptide #status predicted <PRO>
F;78-234/Product: tumor necrosis factor alpha #status predicted <TUM>
F;20/Binding site: myristate (Lys) (covalent) #status predicted
F;82/Binding site: carbohydrate (Ser) (covalent) #status predicted
F;96/Binding site: carbohydrate (Asn) (covalent) #status predicted
F;146-178/Disulfide bonds: #status predicted

  Query Match             77.3%;  Score 629;  DB 1;  Length 234;
  Best Local Similarity   77.7%;  Pred. No. 1.1e-56;
  Matches  122;  Conservative   15;  Mismatches   20;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              :||||:  :: |||||||| | |||:| :  ||||:||||||:||||||::|||||||
Db         78 LRSSSQASNNKPVAHVVANISAPGQLRWGDSYANALMANGVELKDNQLVVPTDGLYLIYS 137

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              |||| | ||||| : |||||||||||||| ||:||||:||| ||| ||||| |||||||
Db        138 QVLFRGHGCPSTPLFLTHTISRIAVSYQTKVNILSAIKSPCHRETLEGAEAKPWYEPIYQ 197

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||| |:|||:||||||||||||
Db        198 GGVFQLEKGDRLSAEINLPEYLDYAESGQVYFGIIAL 234


RESULT 11
I54490
tumor necrosis factor alpha precursor - white-footed mouse
C;Species: Peromyscus leucopus (white-footed mouse)
C;Date: 02-Aug-1996 #sequence_revision 02-Aug-1996 #text_change 09-Jul-2004
C;Accession: I54490
R;Crew, M.D.; Filipowsky, M.E.
Immunogenetics 35, 351-353, 1992
A;Title: Sequence of the tumor necrosis factor/cachectin (TNF) gene from Peromyscus leu
A;Reference number: I54490; MUID:92218012; PMID:1348497
A;Accession: I54490
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-235 <RES>
A;Cross-references: UNIPROT:P36939; UNIPARC:UPI00001370C5; GB:M59233; NID:g202506; PIDN
C;Genetics:
A;Gene: PlTNF
A;Introns: 62/3; 81/1; 97/1
C;Superfamily: tumor necrosis factor
C;Keywords: glycoprotein; lipoprotein; myristylation
F;19,20/Binding site: myristate (Lys) (covalent) #status predicted
F;84/Binding site: carbohydrate (Ser) (covalent) #status predicted

  Query Match             77.2%;  Score 628.5;  DB 2;  Length 235;
```

```
  Best Local Similarity   75.2%;  Pred. No. 1.2e-56;
  Matches  118;  Conservative   21;  Mismatches   17;  Indels    1;  Gaps    1;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              :||||:  || |||||||| | : ||:||:| ||||||||::|:|||||:|::||||:||
Db         80 LRSSSQNSSDKPVAHVVANHQVDEQLEWLSRGANALLANGMDLKDNQLVIPADGLYLVYS 139

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              |||| |||| |::|||||:|| ||||:  |||||||:||| :|||||:|  ||||||||
Db        140 QVLFKGQGC-SSYVLLTHTVSRFAVSYEDKVNLLSAIKSPCPKETPEGSELKPWYEPIYL 198

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| |||||||:| | ||||||||||||||:|||
Db        199 GGVFQLEKGDRLSAEVNLPKYLDFAESGQVYFGVIAL 235


RESULT 12
S06192
tumor necrosis factor alpha precursor - goat (fragment)
N;Alternate names: cachectin; TNF alpha
C;Species: Capra aegagrus hircus (domestic goat)
C;Date: 28-Feb-1990 #sequence_revision 28-Feb-1990 #text_change 09-Jul-2004
C;Accession: S06192; S41867
R;Goldstein, I.M.; Henner, D.; Talhouk, A.
submitted to the EMBL Data Library, March 1989
A;Reference number: S06192
A;Accession: S06192
A;Molecule type: mRNA
A;Residues: 1-193 <GOL>
A;Cross-references: UNIPROT:P13296; UNIPARC:UPI000016C3FD; EMBL:X14828; NID:g992; PIDN:C
R;Rimstad, E.
submitted to the EMBL Data Library, January 1994
A;Reference number: S41867
A;Accession: S41867
A;Status: preliminary
A;Molecule type: mRNA
A;Residues: 36-38,'S',40-78,'A',80-88,'N',90-114,'Q',116-123,'D',125-144,'G',145-173,'L'
A;Cross-references: UNIPARC:UPI000016C3FE; EMBL:X77317; NID:g452607; PIDN:CAA54523.1; PI
C;Superfamily: tumor necrosis factor
C;Keywords: cytokine; cytotoxin; glycoprotein; lymphokine; macrophage; membrane protein
F;42/Binding site: carbohydrate (Ser) (covalent) #status predicted
F;106-138/Disulfide bonds: #status predicted

  Query Match             76.7%;  Score 624.5;  DB 2;  Length 193;
  Best Local Similarity   78.3%;  Pred. No. 2.4e-56;
  Matches  123;  Conservative   14;  Mismatches   19;  Indels    1;  Gaps    1;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              :||||:  |: |||||||| | |||:| :  |||| ||||||:|||||||::|||||||
Db         38 LRSSSQASSNKPVAHVVANISAPGQLRWGDSYANALKANGVELKDNQLVVPTDGLYLIYS 97

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              |||| | ||||| : |||||||||||||| ||:||||:||| ||||| ||| |||||||
Db         98 QVLFRGHGCPSTPLFLTHTISRIAVSYQTKVNILSAIKSPCHRETPE-AEAKPWYEPIYQ 156

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| |||||||||:|:|||:||||||||||||
Db        157 GGVFQLEKGDRLSAEINQPEYLDYAESGQVYFGIIAL 193


RESULT 13
JU0029
tumor necrosis factor alpha precursor - rat
N;Alternate names: cachectin; TNF alpha
C;Species: Rattus norvegicus (Norway rat)
C;Date: 07-Jun-1990 #sequence_revision 07-Jun-1990 #text_change 09-Jul-2004
C;Accession: JU0029; JN0868; S21674
R;Shirai, T.; Shimizu, N.; Horiguchi, S.; Ito, H.
Agric. Biol. Chem. 53, 1733-1736, 1989
A;Title: Cloning and expression in Escherichia coli of the gene for rat tumor necrosis f
A;Reference number: JU0029
A;Accession: JU0029
A;Molecule type: DNA
A;Residues: 1-235 <SHI>
A;Cross-references: UNIPROT:P16599; UNIPARC:UPI000004368F
R;Kwon, J.; Chung, I.Y.; Benveniste, E.N.
Gene 132, 227-236, 1993
A;Title: Cloning and sequence analysis of the rat tumor necrosis factor-encoding genes.
A;Reference number: JN0868; MUID:94040766; PMID:8224868
A;Accession: JN0868
A;Molecule type: DNA
A;Residues: 1-235 <KWO>
A;Cross-references: UNIPARC:UPI000004368F; GB:L00981; NID:g205253; PIDN:AAA16275.1; PID
R;Estler, H.C.; Grewe, M.; Gaussling, R.; Pavlovic, M.; Decker, K.
Biol. Chem. Hoppe-Seyler 373, 271-281, 1992
A;Title: Rat tumor necrosis factor-alpha. Transcription in rat Kupffer cells and in vitr
A;Reference number: S21674; MUID:92329007; PMID:1627266
A;Accession: S21674
A;Molecule type: mRNA
A;Residues: 1-38,'P',40-162,'T',164-201,'S',203-235 <EST>
A;Cross-references: UNIPARC:UPI000017086D; GB:X66539; GB:S40199; NID:g395369; PIDN:CAA47
C;Comment: Tumor necrosis factor is secreted by macrophages in response to endotoxin and
C;Genetics:
A;Gene: TNF-alpha
A;Introns: 62/3; 81/1; 97/1
C;Superfamily: tumor necrosis factor
C;Keywords: cytokine; cytotoxin; glycoprotein; lipoprotein; lymphokine; macrophage; memb
F;80-235/Product: tumor necrosis factor #status predicted <MAT>
F;19,20/Binding site: myristate (Lys) (covalent) #status predicted
F;84/Binding site: carbohydrate (Ser) (covalent) #status predicted
F;86/Binding site: carbohydrate (Asn) (covalent) #status predicted
F;148-179/Disulfide bonds: #status predicted

  Query Match             76.1%;  Score 619.5;  DB 2;  Length 235;
  Best Local Similarity   74.5%;  Pred. No. 9.9e-56;
  Matches  117;  Conservative   20;  Mismatches   19;  Indels    1;  Gaps    1;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              :||||:  || |||||||| ||| ||:||::|||||||||::|:|||||||::|||||||
Db         80 LRSSSQNSSDKPVAHVVANHQAEEQLEWLSQRANALLANGMDLKDNQLVVPADGLYLIYS 139

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              |||| |||||  :||||||:|| |:|||  |:|||||:||| ::|||||  |||||:||
Db        140 QVLFKGQGCPD-YVLLTHTVSRFAISYQEKVSLLSAIKSPCPKDTPEGAELKPWYEPMYL 198

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| || ||||:| | |||  |||||||:|||
Db        199 GGVFQLEKGDLLSAEVNLPKYLDITESGQVYFGVIAL 235


RESULT 14
JH0309
tumor necrosis factor beta precursor - rabbit
N;Alternate names: lymphotoxin; TNF beta
C;Species: Oryctolagus cuniculus (domestic rabbit)
C;Date: 10-Sep-1999 #sequence_revision 10-Sep-1999 #text_change 09-Jul-2004
C;Accession: JH0309; PN0098
R;Shakhov, A.N.; Kuprash, D.V.; Azizov, M.M.; Jongeneel, C.V.; Nedospasov, S.A.
Gene 95, 215-221, 1990
A;Title: Structural analysis of the rabbit TNF locus, containing the genes encoding TNF-
A;Reference number: JH0309; MUID:91065534; PMID:2249779
A;Accession: JH0309
A;Molecule type: DNA
A;Residues: 1-197 <SH2>
A;Cross-references: UNIPROT:P10154; UNIPARC:UPI00001370CE; GB:M60340; GB:M35326; NID:g16
R;Shakhov, A.N.; Kuprash, D.V.; Turetskaya, R.L.; Azizov, M.M.; Andreyeva, A.V.; Nedospa
Mol. Biol. (Mosk.) 23, 1743-1750, 1989
A;Title: Cloning and structural analysis of the genes, coding for rabbit tumor necrosis
A;Reference number: PN0098; MUID:90220566; PMID:2633043
A;Accession: PN0098
A;Molecule type: mRNA
A;Residues: 1-197 <SHA>
A;Cross-references: UNIPARC:UPI00001370CE; GB:X55745; NID:g297167; PIDN:CAA39275.1; PID
C;Genetics:
A;Introns: 25/3; 61/1
C;Superfamily: tumor necrosis factor
```

```
C;Keywords: cytokine; cytotoxin; glycoprotein; lymphokine; macrophage
F;1-26/Domain: signal sequence #status predicted <SIG>
F;27-197/Product: lymphotoxin #status predicted <MAT>

  Query Match             31.8%;  Score 258.5;  DB 1;  Length 197;
  Best Local Similarity   40.0%;  Pred. No. 6.4e-19;
  Matches   60;  Conservative   21;  Mismatches   58;  Indels   11;  Gaps    4;

Qy          12 PVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYSQVLFSGQGCP- 70
               | ||:| :| |:  |:|       | | :|  | :| |:||| ||| :||||:|||:||
Db          55 PAAHLVGDPSAQDSLRWRANTDRAFLRHGFSLSNNSLLVPSSGLYFVYSQVVFSGEGCSP 114

Qy          71 ---STHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYLGGVFQLE 127
                   | : | | :   :  |   | |||| :| |    |:|    ||   :| | || |
Db         115 KAVPTPLYLAHEVQLFSSQYSFHVPLLSAQKSVC--PGPQG----PWVRSVYQGAVFLLT 168

Qy         128 PGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
                ||:||   :   :|  : |  |:||  ||
Db         169 QGDQLSTHTDGIAHLLLSPS-SVFFGAFAL 197


RESULT 15
S24641
lymphotoxin - bovine
C;Species: Bos primigenius taurus (cattle)
C;Date: 10-Sep-1999 #sequence_revision 10-Sep-1999 #text_change 09-Jul-2004
C;Accession: I46046; S24641
R;Cludts, I.; Cleuter, Y.; Kettmann, R.; Burny, A.; Droogmans, L.
Cytokine 5, 336-341, 1993
A;Title: Cloning and characterization of the tandemly arranged bovine lymphotoxin and tu
A;Reference number: I46046; MUID:94083525; PMID:8260599
A;Accession: I46046
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-204 <CL2>
A;Cross-references: UNIPROT:Q06600; UNIPARC:UPI00001370CA; EMBL:Z14137; NID:g796; PIDN:C
C;Genetics:
A;Introns: 32/3; 68/1
C;Superfamily: tumor necrosis factor

  Query Match             30.8%;  Score 250.5;  DB 1;  Length 204;
  Best Local Similarity   38.7%;  Pred. No. 4.4e-18;
  Matches   58;  Conservative   22;  Mismatches   59;  Indels   11;  Gaps    4;

Qy          12 PVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYSQVLFSGQGC-- 69
               | ||:| :|  :  |:|       | | :|  | :| |:||: ||| :||||:|||:||
Db          62 PAAHLVGDPSTQDSLRWRANTDRAFLRHGFSLSNNSLLVPTSGLYFVYSQVVFSGRGCFP 121

Qy          70 --PSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYLGGVFQLE 127
                 | : | | :   :  |   | |||| :| |    |:|    ||   :| | || |
Db         122 RATPTPLYLAHEVQLFSPQYPFHVPLLSAQKSVC--PGPQG----PWVRSVYQGAVFLLT 175

Qy         128 PGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
                ||:||   :   :|  : |  |:||  ||
Db         176 RGDQLSTHTDGISHLLLSPS-SVFFGAFAL 204


Search completed: May  5, 2006, 11:27:50
Job time : 20 secs
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GenCore version 5.1.7

OM protein - protein search, using sw model

Run on: May 5, 2006, 11:21:53 ; Search time 53.5 Seconds
(without alignments)
2070.429 Million cell updates/sec

Title: US-10-668-178-3
Perfect score: 814
Sequence: 1 VRSSSRTPSDMPVAHVVANP.....RPDYLDFAESGQVYFGIIAL 157

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 2166443 seqs, 705528306 residues

Total number of hits satisfying chosen parameters: 2166443

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : UniProt_05.80:*
1: uniprot_sprot:*
2: uniprot_trembl:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	779	95.7	233	1	TNFA_HUMAN	P01375 homo sapien
2	779	95.7	233	2	Q5STB3_HUMAN	Q5stb3 homo sapien
3	772	94.8	233	1	TNFA_PAPSP	P33620 papio sp. (
4	770	94.6	232	1	TNFA_PANTR	Q8hzd9 pan troglod
5	761	93.5	233	1	TNFA_MACMU	P48094 macaca mula
6	758	93.1	233	1	TNFA_MACFA	P79337 macaca fasc
7	757	93.0	233	1	TNFA_PAPHU	O77510 papio hamad
8	754	92.6	233	1	TNFA_PAPAN	P59695 papio anubi
9	744	91.4	149	2	O97543_AOTNA	O97543 aotus nancy
10	738	90.7	233	1	TNFA_CANFA	P51742 canis famil
11	731	89.8	233	1	TNFA_FELCA	P19101 felis silve
12	708	87.0	233	1	TNFA_SAISC	Q8mkg8 saimiri sci
13	702	86.2	149	2	O97538_AOTVO	O97538 aotus vocif
14	702	86.2	149	2	Q9TTG8_AOTNI	Q9ttg8 aotus nigri
15	697	85.6	234	1	TNFA_HORSE	P29553 equus cabal
16	691	84.9	217	2	Q9BEG0_CYCDI	Q9beg0 cyclopes di
17	687	84.4	217	2	Q9BEG1_BRATR	Q9beg1 bradypus tr
18	679	83.4	233	1	TNFA_DELLE	Q8wnr1 delphinapte
19	677.5	83.2	232	1	TNFA_PIG	P23563 sus scrofa
20	661	81.2	233	1	TNFA_TURTR	Q9bea1 tursiops tr
21	652	80.1	217	2	Q9BEF4_CABUN	Q9bef4 cabassous u
22	649	79.7	138	2	Q9TTG7_AOTLE	Q9ttg7 aotus lemur
23	641	78.7	234	1	TNFA_CAPHI	P13296 capra hircu
24	638	78.4	234	2	Q53ZM5_CAPHI	Q53zm5 capra hircu
25	637.5	78.3	234	1	TNFA_CAVPO	P51435 cavia porce
26	635	78.0	216	2	Q9BEC4_TALEU	Q9bec4 talpa europ
27	634.5	77.9	235	1	TNFA_MOUSE	P06804 mus musculu
28	633.5	77.8	235	1	TNFA_RABIT	P04924 oryctolagus
29	633	77.8	234	2	Q539C2_TUPTA	Q539c2 tupaia tana
30	632	77.6	229	1	TNFA_CEREL	P51743 cervus elap
31	631	77.5	233	1	TNFA_BOVIN	Q06599 bos taurus
32	631	77.5	233	1	TNFA_BUBBU	P59693 bubalus bub
33	631	77.5	234	1	TNFA_BOSIN	P59684 bos indicus
34	629	77.3	234	1	TNFA_SHEEP	P23383 ovis aries
35	628.5	77.2	235	1	TNFA_PERLE	P36939 peromyscus
36	623.5	76.6	235	2	Q5W9H9_MERUN	Q5w9h9 meriones un
37	622.5	76.5	232	2	Q80XA4_PERMA	Q80xa4 peromyscus
38	619.5	76.1	235	1	TNFA_RAT	P16599 rattus norv
39	619.5	76.1	235	2	Q6EE11_RAT	Q6ee11 rattus norv
40	617	75.8	233	1	TNFA_CAMBA	Q75n23 camelus bac
41	617	75.8	233	1	TNFA_LAMGL	P59694 lama glama
42	611.5	75.1	156	2	Q91ZL4_SIGHI	Q91zl4 sigmodon hi
43	604.5	74.3	233	1	TNFA_MARMO	O35734 marmota mon
44	604.5	74.3	233	2	Q6X658_MARMO	Q6x658 marmota mon
45	601.5	73.9	216	2	Q9BEC9_OCHPR	Q9bec9 ochotona pr

ALIGNMENTS

RESULT 1
TNFA_HUMAN
ID TNFA_HUMAN STANDARD; PRT; 233 AA.
AC P01375; O43647; Q9P1Q2; Q9UIV3;
DT 21-JUL-1986 (Rel. 01, Created)
DT 21-JUL-1986 (Rel. 01, Last sequence update)
DT 13-SEP-2005 (Rel. 48, Last annotation update)
DE Tumor necrosis factor precursor (TNF-alpha) (Tumor necrosis factor
DE ligand superfamily member 2) (TNF-a) (Cachectin) [Contains: Tumor
DE necrosis factor, membrane form; Tumor necrosis factor, soluble form].
GN Name=TNF; Synonyms=TNFA, TNFSF2;
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini; Hominidae;
OC Homo.
OX NCBI_TaxID=9606;
RN [1]
RP NUCLEOTIDE SEQUENCE.
RX MEDLINE=87217060; PubMed=3555974;
RA Nedospasov S.A., Shakhov A.N., Turetskaya R.L., Mett V.A.,
RA Azizov M.M., Georgiev G.P., Korobko V.G., Dobrynin V.N.,
RA Filippov S.A., Bystrov N.S., Boldyreva E.F., Chuvpilo S.A.,
RA Chumakov A.M., Shingarova L.N., Ovchinnikov Y.A.;
RT "Tandem arrangement of genes coding for tumor necrosis factor (TNF-
RT alpha) and lymphotoxin (TNF-beta) in the human genome.";
RL Cold Spring Harb. Symp. Quant. Biol. 51:611-624(1986).
RN [2]
RP NUCLEOTIDE SEQUENCE.
RX MEDLINE=85086244; PubMed=6392892;
RA Pennica D., Nedwin G.E., Hayflick J.S., Seeburg P.H., Derynck R.,
RA Palladino M.A., Kohr W.J., Aggarwal B.B., Goeddel D.V.;
RT "Human tumour necrosis factor: precursor structure, expression and
RT homology to lymphotoxin.";
RL Nature 312:724-729(1984).
RN [3]
RP NUCLEOTIDE SEQUENCE.
RX MEDLINE=85137898; PubMed=3883195;
RA Shirai T., Yamaguchi H., Ito H., Todd C.W., Wallace R.B.;
RT "Cloning and expression in Escherichia coli of the gene for human
RT tumour necrosis factor.";
RL Nature 313:803-806(1985).
RN [4]
RP NUCLEOTIDE SEQUENCE.
RX MEDLINE=86016093; PubMed=2995927;
RA Nedwin G.E., Naylor S.L., Sakaguchi A.Y., Smith D.H.,
RA Jarrett-Nedwin J., Pennica D., Goeddel D.V., Gray P.W.;
RT "Human lymphotoxin and tumor necrosis factor genes: structure,
RT homology and chromosomal localization.";
RL Nucleic Acids Res. 13:6361-6373(1985).
RN [5]
RP NUCLEOTIDE SEQUENCE.
RX MEDLINE=85142190; PubMed=3856324;
RA Wang A.M., Creasey A.A., Ladner M.B., Lin L.S., Strickler J.,
RA van Arsdell J.N., Yamamoto R., Mark D.F.;

RT "Molecular cloning of the complementary DNA for human tumor necrosis
RT factor.";
RL Science 228:149-154(1985).
RN [6]
RP NUCLEOTIDE SEQUENCE.
RX MEDLINE=86030296; PubMed=3932069;
RA Marmenout A., Fransen L., Tavernier J., van der Heyden J., Tizard R.,
RA Kawashima E., Shaw A., Johnson M.J., Semon D., Mueller R.,
RA Ruysschaert M.R., van Vliet A., Fiers W.;
RT "Molecular cloning and expression of human tumor necrosis factor and
RT comparison with mouse tumor necrosis factor.";
RL Eur. J. Biochem. 152:515-522(1985).
RN [7]
RP NUCLEOTIDE SEQUENCE.
RX MEDLINE=93272029; PubMed=8499947;
RA Iris F.J.M., Bougueleret L., Prieur S., Caterina D., Primas G.,
RA Perrot V., Jurka J., Rodriguez-Tome P., Claverie J.-M., Dausset J.,
RA Cohen D.;
RT "Dense Alu clustering and a potential new member of the NF kappa B
RT family within a 90 kilobase HLA class III segment.";
RL Nat. Genet. 3:137-145(1993).
RN [8]
RP NUCLEOTIDE SEQUENCE.
RX MEDLINE=99218514; PubMed=10202016;
RA Neville M.J., Campbell R.D.;
RT "A new member of the Ig superfamily and a V-ATPase G subunit are among
RT the predicted products of novel genes close to the TNF locus in the
RT human MHC.";
RL J. Immunol. 162:4745-4754(1999).
RN [9]
RP NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].
RX PubMed=14656967; DOI=10.1101/gr.1736803;
RA Xie T., Rowen L., Aguado B., Ahearn M.E., Madan A., Qin S.,
RA Campbell R.D., Hood L.;
RT "Analysis of the gene-dense major histocompatibility complex class III
RT region and its comparison to mouse.";
RL Genome Res. 13:2621-2636(2003).
RN [10]
RP NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].
RA Shiina S., Tamiya G., Oka A., Inoko H.;
RT "Homo sapiens 2,229,817bp genomic DNA of 6p21.3 HLA class I region.";
RL Submitted (SEP-1999) to the EMBL/GenBank/DDBJ databases.
RN [11]
RP NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].
RA Shiina T., Ota M., Katsuyama Y., Hashimoto N., Inoko H.;
RT "Genome diversity in HLA: a new strategy for detection of genetic
RT polymorphisms in expressed genes within the HLA class III and class I
RT regions.";
RL Submitted (JUL-2002) to the EMBL/GenBank/DDBJ databases.
RN [12]
RP NUCLEOTIDE SEQUENCE [GENOMIC DNA].
RA Rieder M.J., Carrington D.P., Chung M.-W., Lee K.L., Poel C.L., Yi Q.,
RA Nickerson D.A.;
RT "SeattleSNPs. NHLBI HL66682 program for genomic applications, UW-
RT FHCRC, Seattle, WA (URL: http://pga.gs.washington.edu).";
RL Submitted (DEC-2001) to the EMBL/GenBank/DDBJ databases.
RN [13]
RP NUCLEOTIDE SEQUENCE [GENOMIC DNA], AND VARIANT LEU-84.
RA Rieder M.J., Livingston R.J., Daniels M.R., Montoya M.A., Chung M.-W.,
RA Miyamoto K.E., Nguyen C.P., Nguyen D.A., Poel C.L., Robertson P.D.,
RA Schackwitz W.S., Sherwood J.K., Witrak L.A., Nickerson D.A.;
RT "NIEHS-SNPs, environmental genome project, NIEHS ES15478, Department
RT of Genome Sciences, Seattle, WA (URL: http://egp.gs.washington.edu).";
RL Submitted (JAN-2003) to the EMBL/GenBank/DDBJ databases.
RN [14]
RP NUCLEOTIDE SEQUENCE [LARGE SCALE MRNA].
RC TISSUE=Blood;
RX MEDLINE=22388257; PubMed=12477932; DOI=10.1073/pnas.242603899;
RA Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,
RA Klausner R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D.,
RA Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,
RA Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,
RA Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,
RA Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,
RA Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,
RA Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,
RA Bosak S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,
RA Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,
RA Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,
RA Fahey J., Helton E., Ketteman M., Madan A., Rodrigues S., Sanchez A.,
RA Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,
RA Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C.,
RA Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M.,
RA Butterfield Y.S.N., Krzywinski M.I., Skalska U., Smailus D.E.,
RA Schnerch A., Schein J.E., Jones S.J.M., Marra M.A.;
RT "Generation and initial analysis of more than 15,000 full-length human
RT and mouse cDNA sequences.";
RL Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002).
RN [15]
RP NUCLEOTIDE SEQUENCE OF 77-233.
RA Jang J.S., Kim B.E.;
RL Submitted (JAN-1998) to the EMBL/GenBank/DDBJ databases.
RN [16]
RP NUCLEOTIDE SEQUENCE OF 84-214.
RC TISSUE=Prostatic carcinoma;
RA Shao C., Yan W., Zhu F., Yue W., Chai Y., Zhao Z., Wang C.;
RL Submitted (MAR-2000) to the EMBL/GenBank/DDBJ databases.
RN [17]
RP PHOSPHORYLATION (MEMBRANE FORM).
RX MEDLINE=96170872; PubMed=8597870;
RA Pocsik E., Duda E., Wallach D.;
RT "Phosphorylation of the 26 kDa TNF precursor in monocytic cells and in
RT transfected HeLa cells.";
RL J. Inflamm. 45:152-160(1995).
RN [18]
RP PHOSPHORYLATION BY CK1, AND DEPHOSPHORYLATION.
RX MEDLINE=99221647; PubMed=10205166; DOI=10.1093/emboj/18.8.2119;
RA Watts A.D., Hunt N.H., Wanigasekara Y., Bloomfield G., Wallach D.,
RA Roufogalis B.D., Chaudhri G.;
RT "A casein kinase I motif present in the cytoplasmic domain of members
RT of the tumour necrosis factor ligand family is implicated in 'reverse
RT signalling'.";
RL EMBO J. 18:2119-2126(1999).
RN [19]
RP MUTAGENESIS.
RX MEDLINE=91184128; PubMed=2009860;
RA Ostade X.V., Tavernier J., Prange T., Fiers W.;
RT "Localization of the active site of human tumour necrosis factor
RT (hTNF) by mutational analysis.";
RL EMBO J. 10:827-836(1991).
RN [20]
RP MYRISTOYLATION.
RX MEDLINE=93018820; PubMed=1402651; DOI=10.1084/jem.176.4.1053;
RA Stevenson F.T., Bursten S.L., Locksley R.M., Lovett D.H.;
RT "Myristyl acylation of the tumor necrosis factor alpha precursor on
RT specific lysine residues.";
RL J. Exp. Med. 176:1053-1062(1992).
RN [21]
RP CLEAVAGE BY ADAM17.
RX MEDLINE=97186575; PubMed=9034191;
RA Moss M.L., Jin S.-L.C., Milla M.E., Burkhart W., Carter H.L.,
RA Chen W.-J., Clay W.C., Didsbury J.R., Hassler D., Hoffman C.R.,
RA Kost T.A., Lambert M.H., Leesnitzer M.A., McCauley P., McGeehan G.,
RA Mitchell J., Moyer M., Pahel G., Rocque W., Overton L.K., Schoenen F.,
RA Seaton T., Su J.-L., Warner J., Willard D., Becherer J.D.;
RT "Cloning of a disintegrin metalloproteinase that processes precursor
RT tumour-necrosis factor-alpha.";
RL Nature 385:733-736(1997).
RN [22]
RP X-RAY CRYSTALLOGRAPHY (2.9 ANGSTROMS).
RX MEDLINE=89159409; PubMed=2922050; DOI=10.1038/338225a0;
RA Jones E.Y., Stuart D.I., Walker N.P.;
RT "Structure of tumour necrosis factor.";
RL Nature 338:225-228(1989).
RN [23]
RP X-RAY CRYSTALLOGRAPHY (2.9 ANGSTROMS).

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RX   MEDLINE=91193276; PubMed=1964681;
RA   Jones E.Y., Stuart D.I., Walker N.P.;

  Query Match             95.7%;  Score 779;  DB 1;  Length 233;
  Best Local Similarity   96.2%;  Pred. No. 2.5e-70;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| |||||||||||||||||||||||||||||||||||||||||||||||||
Db         77 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 136

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              |||| |||||||||||||||||||||||| ||||||:|||||||||||| ||||||||
Db        137 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 196

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| |||||||||||||||||||||||||||||
Db        197 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 233


RESULT 2
Q5STB3_HUMAN
ID   Q5STB3_HUMAN PRELIMINARY;      PRT;   233 AA.
AC   Q5STB3;
DT   01-FEB-2005 (TrEMBLrel. 29, Created)
DT   01-FEB-2005 (TrEMBLrel. 29, Last sequence update)
DT   13-SEP-2005 (TrEMBLrel. 31, Last annotation update)
DE   Tumor necrosis factor (TNF superfamily, member 2).
GN   Name=TNF;
GN   ORFNames=DAQB-87N14.5-001, DASS-280D8.2-001, XXbac-BCX270M2.1-001,
GN   XXbac-BPG296P20.12-001;
OS   Homo sapiens (Human).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini; Hominidae;
OC   Homo.
OX   NCBI_TaxID=9606;
RN   [1]
RP   NUCLEOTIDE SEQUENCE.
RA   Tracey A.;
RL   Submitted (MAY-2005) to the EMBL/GenBank/DDBJ databases.
DR   EMBL; AL662847; CAI17678.1; -; Genomic_DNA.
DR   EMBL; AL929587; CAI18649.1; -; Genomic_DNA.
DR   EMBL; AL662801; CAI18292.1; -; Genomic_DNA.
DR   EMBL; BX248519; CAI41940.1; -; Genomic_DNA.
DR   SMR; Q5STB3; 82-233.
DR   GO; GO:0016020; C:membrane; IEA.
DR   GO; GO:0005164; F:tumor necrosis factor receptor binding; IEA.
DR   GO; GO:0006955; P:immune response; IEA.
DR   InterPro; IPR006053; TNF_abc.
DR   InterPro; IPR002959; TNF_alpha.
DR   InterPro; IPR006052; TNF_family.
DR   Pfam; PF00229; TNF; 1.
DR   PRINTS; PR01234; TNECROSISFCT.
DR   PRINTS; PR01235; TNFALPHA.
DR   SMART; SM00207; TNF; 1.
DR   PROSITE; PS00251; TNF_1; 1.
DR   PROSITE; PS50049; TNF_2; 1.
SQ   SEQUENCE   233 AA;  25644 MW;  3DF90F96C9031FFE CRC64;

  Query Match             95.7%;  Score 779;  DB 2;  Length 233;
  Best Local Similarity   96.2%;  Pred. No. 2.5e-70;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| |||||||||||||||||||||||||||||||||||||||||||||||||
Db         77 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 136

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              |||| |||||||||||||||||||||||| ||||||:|||||||||||| ||||||||
Db        137 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 196

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
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Db        197 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 233


RESULT 3
TNFA_PAPSP
ID   TNFA_PAPSP     STANDARD;      PRT;   233 AA.
AC   P33620;
DT   01-FEB-1994 (Rel. 28, Created)
DT   01-FEB-1994 (Rel. 28, Last sequence update)
DT   13-SEP-2005 (Rel. 48, Last annotation update)
DE   Tumor necrosis factor precursor (TNF-alpha) (Tumor necrosis factor
DE   ligand superfamily member 2) (TNF-a) (Cachectin) [Contains: Tumor
DE   necrosis factor, membrane form; Tumor necrosis factor, soluble form].
GN   Name=TNF; Synonyms=TNFA, TNFSF2;
OS   Papio sp. (Baboon).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini;
OC   Cercopithecidae; Cercopithecinae; Papio.
OX   NCBI_TaxID=61183;
RN   [1]
RP   NUCLEOTIDE SEQUENCE.
RA   Sanjanwala M., Edwards A.;
RL   Submitted (SEP-1991) to the EMBL/GenBank/DDBJ databases.
CC   -!- FUNCTION: Cytokine that binds to TNFRSF1A/TNFR1 and
CC       TNFRSF1B/TNFBR. It is mainly secreted by macrophages and can
CC       induce cell death of certain tumor cell lines. It is potent
CC       pyrogen causing fever by direct action or by stimulation of
CC       interleukin 1 secretion and is implicated in the induction of
CC       cachexia, Under certain conditions it can stimulate cell
CC       proliferation and induce cell differentiation.
CC   -!- SUBUNIT: Homotrimer (By similarity).
CC   -!- SUBCELLULAR LOCATION: Type II membrane protein. Also exists as an
CC       extracellular soluble form (By similarity).
CC   -!- PTM: The soluble form derives from the membrane form by
CC       proteolytic processing (By similarity).
CC   -!- PTM: The membrane form, but not the soluble form, is
CC       phosphorylated on serine residues. Dephosphorylation of the
CC       membrane form occurs by binding to soluble TNFRSF1A/TNFR1 (By
CC       similarity).
CC   -!- SIMILARITY: Belongs to the tumor necrosis factor family.
CC   ---------------------------------------------------------------------
CC   This Swiss-Prot entry is copyright. It is produced through a collaboration
CC   between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC   the European Bioinformatics Institute. There are no restrictions on its
CC   use as long as its content is in no way modified and this statement is not
CC   removed.
CC   ---------------------------------------------------------------------
DR   EMBL; X62141; CAA44068.1; -; Genomic_DNA.
DR   PIR; S22052; S22052.
DR   HSSP; P01375; 1A8M.
DR   SMR; P33620; 82-233.
DR   InterPro; IPR006053; TNF_abc.
DR   InterPro; IPR002959; TNF_alpha.
DR   InterPro; IPR006052; TNF_family.
DR   InterPro; IPR003636; TNF_subf.
DR   PANTHER; PTHR11471:SF4; TNF_alpha; 1.
DR   Pfam; PF00229; TNF; 1.
DR   PRINTS; PR01234; TNECROSISFCT.
DR   PRINTS; PR01235; TNFALPHA.
DR   ProDom; PD002012; TNF_subf; 1.
DR   SMART; SM00207; TNF; 1.
DR   PROSITE; PS00251; TNF_1; 1.
DR   PROSITE; PS50049; TNF_2; 1.
KW   Cytokine; Phosphorylation; Signal-anchor; Transmembrane.
FT   CHAIN         1    233       Tumor necrosis factor, membrane form.
FT   CHAIN        77    233       Tumor necrosis factor, soluble form.
FT   TOPO_DOM      1     35       Cytoplasmic (Potential).
FT   TRANSMEM     36     56       Signal-anchor for type II membrane
FT                                protein (Potential).
FT   TOPO_DOM     57    233       Extracellular (Potential).
FT   SITE         76     77       Cleavage (by ADAM17) (By similarity).
FT   MOD_RES       2      2       Phosphoserine (by CK1) (By similarity).
FT   DISULFID    145    177       By similarity.
```

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SQ   SEQUENCE   233 AA;  25557 MW;  455360B48DC74173 CRC64;

  Query Match             94.8%;  Score 772;  DB 1;  Length 233;
  Best Local Similarity   95.5%;  Pred. No. 1.3e-69;
  Matches  150;  Conservative    1;  Mismatches    6;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||
Db         77 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 136

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              |||| |||||||||||||||||||||||| |||||||:||||||||||||| ||||||||
Db        137 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 196

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||| ||||||||||||||||||||
Db        197 GGVFQLEKGDRLSAEINLPDYLDFAESGQVYFGIIAL 233


RESULT 4
TNFA_PANTR
ID   TNFA_PANTR     STANDARD;      PRT;   232 AA.
AC   Q8HZD9;
DT   10-OCT-2003 (Rel. 42, Created)
DT   10-OCT-2003 (Rel. 42, Last sequence update)
DT   13-SEP-2005 (Rel. 48, Last annotation update)
DE   Tumor necrosis factor precursor (TNF-alpha) (Tumor necrosis factor
DE   ligand superfamily member 2) (TNF-a) (Cachectin) [Contains: Tumor
DE   necrosis factor, membrane form; Tumor necrosis factor, soluble form].
GN   Name=TNF; Synonyms=TNFA, TNFSF2;
OS   Pan troglodytes (Chimpanzee).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini; Hominidae;
OC   Pan.
OX   NCBI_TaxID=9598;
RN   [1]
RP   NUCLEOTIDE SEQUENCE.
RX   MEDLINE=22381002; PubMed=12493009;
RX   DOI=10.1034/j.1600-065X.2002.19008.x;
RA   Kulski J.K., Shiina T., Anzai T., Kohara S., Inoko H.;
RT   "Comparative genomic analysis of the MHC: the evolution of class I
RT   duplication blocks, diversity and complexity from shark to man.";
RL   Immunol. Rev. 190:95-122(2002).
RN   [2]
RP   NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].
RX   MEDLINE=22709134; PubMed=12799463; DOI=10.1073/pnas.1230533100;
RA   Anzai T., Shiina T., Kimura N., Yanagiya K., Kohara S., Shigenari A.,
RA   Yamagata T., Kulski J.K., Naruse T.K., Fujimori Y., Fukuzumi Y.,
RA   Yamazaki M., Tashiro H., Iwamoto C., Umehara Y., Imanishi T.,
RA   Meyer A., Ikeo K., Gojobori T., Bahram S., Inoko H.;
RT   "Comparative sequencing of human and chimpanzee MHC class I regions
RT   unveils insertions/deletions as the major path to genomic
RT   divergence.";
RL   Proc. Natl. Acad. Sci. U.S.A. 100:7708-7713(2003).
RN   [3]
RP   NUCLEOTIDE SEQUENCE OF 33-186.
RA   O'Huigin C., Tichy H., Klein J.;
RT   "Molecular evolution in higher primates; gene specific and organism
RT   specific characteristics.";
RL   Submitted (MAR-2002) to the EMBL/GenBank/DDBJ databases.
CC   -!- FUNCTION: Cytokine that binds to TNFRSF1A/TNFR1 and
CC       TNFRSF1B/TNFBR. It is mainly secreted by macrophages and can
CC       induce cell death of certain tumor cell lines. It is potent
CC       pyrogen causing fever by direct action or by stimulation of
CC       interleukin 1 secretion and is implicated in the induction of
CC       cachexia, Under certain conditions it can stimulate cell
CC       proliferation and induce cell differentiation (By similarity).
CC   -!- SUBUNIT: Homotrimer (By similarity).
CC   -!- SUBCELLULAR LOCATION: Type II membrane protein. Also exists as an
CC       extracellular soluble form (By similarity).
CC   -!- PTM: The soluble form derives from the membrane form by
CC       proteolytic processing (By similarity).
CC   -!- PTM: The membrane form, but not the soluble form, is
CC       phosphorylated on serine residues. Dephosphorylation of the
CC       membrane form occurs by binding to soluble TNFRSF1A/TNFR1 (By
CC       similarity).
CC   -!- SIMILARITY: Belongs to the tumor necrosis factor family.
CC   ---------------------------------------------------------------------
CC   This Swiss-Prot entry is copyright. It is produced through a collaboration
CC   between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC   the European Bioinformatics Institute. There are no restrictions on its
CC   use as long as its content is in no way modified and this statement is not
CC   removed.
CC   ---------------------------------------------------------------------
DR   EMBL; AB054536; BAB83882.1; -; Genomic_DNA.
DR   EMBL; BA000041; BAC78157.1; -; Genomic_DNA.
DR   EMBL; AY091964; AAM76582.1; -; Genomic_DNA.
DR   HSSP; P01375; 4TSV.
DR   SMR; Q8HZD9; 81-232.
DR   InterPro; IPR006053; TNF_abc.
DR   InterPro; IPR002959; TNF_alpha.
DR   InterPro; IPR006052; TNF_family.
DR   InterPro; IPR003636; TNF_subf.
DR   PANTHER; PTHR11471:SF4; TNF_alpha; 1.
DR   Pfam; PF00229; TNF; 1.
DR   PRINTS; PR01234; TNECROSISFCT.
DR   PRINTS; PR01235; TNFALPHA.
DR   ProDom; PD002012; TNF_subf; 1.
DR   PROSITE; PS00251; TNF_1; 1.
DR   PROSITE; PS50049; TNF_2; 1.
KW   Cytokine; Phosphorylation; Signal-anchor; Transmembrane.
FT   CHAIN          1    232       Tumor necrosis factor, membrane form (By
FT                                 similarity).
FT   CHAIN         77    232       Tumor necrosis factor, soluble form (By
FT                                 similarity).
FT   TOPO_DOM       1     34       Cytoplasmic (Potential).
FT   TRANSMEM      35     57       Signal-anchor for type II membrane
FT                                 protein (By similarity).
FT   TOPO_DOM      58    232       Extracellular (Potential).
FT   SITE          76     77       Cleavage (by ADAM17) (By similarity).
FT   MOD_RES        2      2       Phosphoserine (by CK1) (By similarity).
FT   DISULFID     144    176       By similarity.
FT   CONFLICT      77     77       G -> VR (in Ref. 3).
SQ   SEQUENCE   232 AA;  25446 MW;  E4D71B19C6AE0D03 CRC64;

  Query Match             94.6%;  Score 770;  DB 1;  Length 232;
  Best Local Similarity   96.1%;  Pred. No. 2e-69;
  Matches  149;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          3 SSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYSQV 62
              |||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||
Db         78 SSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYSQV 137

Qy         63 LFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYLGG 122
              || |||||||||||||||||||||||| |||||||:||||||||||||| ||||||||||
Db        138 LFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYLGG 197

Qy        123 VFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||| ||||||||||||||||||||||||||||||
Db        198 VFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 232


RESULT 5
TNFA_MACMU
ID   TNFA_MACMU     STANDARD;      PRT;   233 AA.
AC   P48094; Q5TM21; Q8HZD6;
DT   01-FEB-1996 (Rel. 33, Created)
DT   01-FEB-1996 (Rel. 33, Last sequence update)
DT   13-SEP-2005 (Rel. 48, Last annotation update)
DE   Tumor necrosis factor precursor (TNF-alpha) (Tumor necrosis factor
DE   ligand superfamily member 2) (TNF-a) (Cachectin) [Contains: Tumor
DE   necrosis factor, membrane form; Tumor necrosis factor, soluble form].
GN   Name=TNF; Synonyms=TNFA, TNFSF2;
OS   Macaca mulatta (Rhesus macaque).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini;
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OC   Cercopithecidae; Cercopithecinae; Macaca.
OX   NCBI_TaxID=9544;
RN   [1]
RP   NUCLEOTIDE SEQUENCE [MRNA].
RX   MEDLINE=96003435; PubMed=7561102;
RA   Villinger F.J., Brar S.S., Mayne A.E., Chikkala N., Ansari A.A.;
RT   "Comparative sequence analysis of cytokine genes from human and
RT   nonhuman primates.";
RL   J. Immunol. 155:3946-3954(1995).
RN   [2]
RP   NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].
RX   PubMed=15269276; DOI=10.1093/molbev/msh216;
RA   Kulski J.K., Anzai T., Shiina T., Inoko H.;
RT   "Rhesus macaque class I duplicon structures, organization, and
RT   evolution within the alpha block of the major histocompatibility
RT   complex.";
RL   Mol. Biol. Evol. 21:2079-2091(2004).
RN   [3]
RP   NUCLEOTIDE SEQUENCE [GENOMIC DNA] OF 33-187.
RA   O'Huigin C., Tichy H., Klein J.;
RT   "Molecular evolution in higher primates; gene specific and organism
RT   specific characteristics.";
RL   Submitted (MAR-2002) to the EMBL/GenBank/DDBJ databases.
CC   -!- FUNCTION: Cytokine that binds to TNFRSF1A/TNFR1 and
CC       TNFRSF1B/TNFBR. It is mainly secreted by macrophages and can
CC       induce cell death of certain tumor cell lines. It is potent
CC       pyrogen causing fever by direct action or by stimulation of
CC       interleukin 1 secretion and is implicated in the induction of
CC       cachexia, Under certain conditions it can stimulate cell
CC       proliferation and induce cell differentiation.
CC   -!- SUBUNIT: Homotrimer (By similarity).
CC   -!- SUBCELLULAR LOCATION: Type II membrane protein. Also exists as an
CC       extracellular soluble form (By similarity).
CC   -!- PTM: The soluble form derives from the membrane form by
CC       proteolytic processing (By similarity).
CC   -!- PTM: The membrane form, but not the soluble form, is
CC       phosphorylated on serine residues. Dephosphorylation of the
CC       membrane form occurs by binding to soluble TNFRSF1A/TNFR1 (By
CC       similarity).
CC   -!- SIMILARITY: Belongs to the tumor necrosis factor family.
CC   ---------------------------------------------------------------------
CC   This Swiss-Prot entry is copyright. It is produced through a collaboration
CC   between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC   the European Bioinformatics Institute. There are no restrictions on its
CC   use as long as its content is in no way modified and this statement is not
CC   removed.
CC   ---------------------------------------------------------------------
DR   EMBL; U19850; AAA86712.1; -; mRNA.
DR   EMBL; AB128049; BAD69724.1; -; Genomic_DNA.
DR   EMBL; AY091967; AAM76585.1; -; Genomic_DNA.
DR   HSSP; P01375; 4TSV.
DR   SMR; P48094; 82-233.
DR   InterPro; IPR006053; TNF_abc.
DR   InterPro; IPR002959; TNF_alpha.
DR   InterPro; IPR006052; TNF_family.
DR   InterPro; IPR003636; TNF_subf.
DR   PANTHER; PTHR11471:SF4; TNF_alpha; 1.
DR   Pfam; PF00229; TNF; 1.
DR   PRINTS; PR01234; TNECROSISFCT.
DR   PRINTS; PR01235; TNFALPHA.
DR   ProDom; PD002012; TNF_subf; 1.
DR   SMART; SM00207; TNF; 1.
DR   PROSITE; PS00251; TNF_1; 1.
DR   PROSITE; PS50049; TNF_2; 1.
KW   Cytokine; Phosphorylation; Signal-anchor; Transmembrane.
FT   CHAIN         1    233       Tumor necrosis factor, membrane form.
FT   CHAIN        77    233       Tumor necrosis factor, soluble form.
FT   TOPO_DOM      1     35       Cytoplasmic (Potential).
FT   TRANSMEM     36     56       Signal-anchor for type II membrane
FT                                protein (Potential).
FT   TOPO_DOM     57    233       Extracellular (Potential).
FT   SITE         76     77       Cleavage (by ADAM17) (By similarity).
FT   MOD_RES       2      2       Phosphoserine (by CK1) (By similarity).
FT   DISULFID    145    177       By similarity.
SQ   SEQUENCE   233 AA;  25630 MW;  9F6F85050595FD59 CRC64;

  Query Match             93.5%;  Score 761;  DB 1;  Length 233;
  Best Local Similarity   94.3%;  Pred. No. 1.7e-68;
  Matches  148;  Conservative    1;  Mismatches    8;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| |||||||||||||||||||||||||||||||| ||||||||||||||||
Db         77 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELTDNQLVVPSEGLYLIYS 136

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              |||| |||||| |||||||||||||||| |||||||:||||||||||||| ||||||||
Db        137 QVLFKGQGCPSNHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 196

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||| ||||||||||||||||||||
Db        197 GGVFQLEKGDRLSAEINLPDYLDFAESGQVYFGIIAL 233


RESULT 6
TNFA_MACFA
ID   TNFA_MACFA     STANDARD;      PRT;   233 AA.
AC   P79337;
DT   15-JUL-1998 (Rel. 36, Created)
DT   15-JUL-1998 (Rel. 36, Last sequence update)
DT   13-SEP-2005 (Rel. 48, Last annotation update)
DE   Tumor necrosis factor precursor (TNF-alpha) (Tumor necrosis factor
DE   ligand superfamily member 2) (TNF-a) (Cachectin) [Contains: Tumor
DE   necrosis factor, membrane form; Tumor necrosis factor, soluble form].
GN   Name=TNF; Synonyms=TNFA, TNFSF2;
OS   Macaca fascicularis (Crab eating macaque) (Cynomolgus monkey).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini;
OC   Cercopithecidae; Cercopithecinae; Macaca.
OX   NCBI_TaxID=9541;
RN   [1]
RP   NUCLEOTIDE SEQUENCE [MRNA].
RC   TISSUE=Lymphocyte;
RA   Tatsumi M.;
RT   "Molecular cloning and expression of cynomolgus monkey TNF-alpha.";
RL   Submitted (JAN-1997) to the EMBL/GenBank/DDBJ databases.
CC   -!- FUNCTION: Cytokine that binds to TNFRSF1A/TNFR1 and
CC       TNFRSF1B/TNFBR. It is mainly secreted by macrophages and can
CC       induce cell death of certain tumor cell lines. It is potent
CC       pyrogen causing fever by direct action or by stimulation of
CC       interleukin 1 secretion and is implicated in the induction of
CC       cachexia, Under certain conditions it can stimulate cell
CC       proliferation and induce cell differentiation.
CC   -!- SUBUNIT: Homotrimer (By similarity).
CC   -!- SUBCELLULAR LOCATION: Type II membrane protein. Also exists as an
CC       extracellular soluble form (By similarity).
CC   -!- PTM: The soluble form derives from the membrane form by
CC       proteolytic processing (By similarity).
CC   -!- PTM: The membrane form, but not the soluble form, is
CC       phosphorylated on serine residues. Dephosphorylation of the
CC       membrane form occurs by binding to soluble TNFRSF1A/TNFR1 (By
CC       similarity).
CC   -!- SIMILARITY: Belongs to the tumor necrosis factor family.
CC   ---------------------------------------------------------------------
CC   This Swiss-Prot entry is copyright. It is produced through a collaboration
CC   between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC   the European Bioinformatics Institute. There are no restrictions on its
CC   use as long as its content is in no way modified and this statement is not
CC   removed.
CC   ---------------------------------------------------------------------
DR   EMBL; AB000513; BAA19131.1; -; mRNA.
DR   HSSP; P01375; 4TSV.
DR   SMR; P79337; 82-233.
DR   InterPro; IPR006053; TNF_abc.
DR   InterPro; IPR002959; TNF_alpha.
DR   InterPro; IPR006052; TNF_family.
DR   InterPro; IPR003636; TNF_subf.
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DR   PANTHER; PTHR11471:SF4; TNF_alpha; 1.
DR   Pfam; PF00229; TNF; 1.
DR   PRINTS; PR01234; TNECROSISFCT.
DR   PRINTS; PR01235; TNFALPHA.
DR   ProDom; PD002012; TNF_subf; 1.
DR   SMART; SM00207; TNF; 1.
DR   PROSITE; PS00251; TNF_1; 1.
DR   PROSITE; PS50049; TNF_2; 1.
KW   Cytokine; Phosphorylation; Signal-anchor; Transmembrane.
FT   CHAIN         1    233       Tumor necrosis factor, membrane form.
FT   CHAIN        77    233       Tumor necrosis factor, soluble form.
FT   TOPO_DOM      1     35       Cytoplasmic (Potential).
FT   TRANSMEM     36     56       Signal-anchor for type II membrane
FT                                protein (Potential).
FT   TOPO_DOM     57    233       Extracellular (Potential).
FT   SITE         76     77       Cleavage (by ADAM17) (By similarity).
FT   MOD_RES       2      2       Phosphoserine (by CK1) (By similarity).
FT   DISULFID    145    177       By similarity.
SQ   SEQUENCE   233 AA;  25558 MW;  6ABF2C3AB132C217 CRC64;

  Query Match             93.1%;  Score 758;  DB 1;  Length 233;
  Best Local Similarity   93.6%;  Pred. No. 3.3e-68;
  Matches  147;  Conservative    2;  Mismatches    8;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| |||||||||||||||||||||:|||||| ||||||||||||||||
Db         77 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALVANGVELTDNQLVVPSEGLYLIYS 136

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              |||| |||||| |||||||||||||||| |||||||:||||||||||| ||||||||
Db        137 QVLFKGQGCPSNHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 196

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||| ||||||||||||||||||||
Db        197 GGVFQLEKGDRLSAEINLPDYLDFAESGQVYFGIIAL 233


RESULT 7
TNFA_PAPHU
ID   TNFA_PAPHU     STANDARD;      PRT;   233 AA.
AC   O77510;
DT   15-DEC-1998 (Rel. 37, Created)
DT   15-DEC-1998 (Rel. 37, Last sequence update)
DT   13-SEP-2005 (Rel. 48, Last annotation update)
DE   Tumor necrosis factor precursor (TNF-alpha) (Tumor necrosis factor
DE   ligand superfamily member 2) (TNF-a) (Cachectin) [Contains: Tumor
DE   necrosis factor, membrane form; Tumor necrosis factor, soluble form].
GN   Name=TNF; Synonyms=TNFA, TNFSF2;
OS   Papio hamadryas ursinus (Chacma baboon).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini;
OC   Cercopithecidae; Cercopithecinae; Papio.
OX   NCBI_TaxID=36229;
RN   [1]
RP   NUCLEOTIDE SEQUENCE [MRNA].
RX   MEDLINE=98147379; PubMed=9488055; DOI=10.1016/S0161-5890(97)00124-7;
RA   Haudek S.B., Redl H., Schlag G., Giroir B.P.;
RT   "Complementary DNA (cDNA) sequence of baboon tumor necrosis factor
RT   alpha.";
RL   Mol. Immunol. 34:1041-1042(1997).
CC   -!- FUNCTION: Cytokine that binds to TNFRSF1A/TNFR1 and
CC       TNFRSF1B/TNFBR. It is mainly secreted by macrophages and can
CC       induce cell death of certain tumor cell lines. It is potent
CC       pyrogen causing fever by direct action or by stimulation of
CC       interleukin 1 secretion and is implicated in the induction of
CC       cachexia, Under certain conditions it can stimulate cell
CC       proliferation and induce cell differentiation.
CC   -!- SUBUNIT: Homotrimer (By similarity).
CC   -!- SUBCELLULAR LOCATION: Type II membrane protein. Also exists as an
CC       extracellular soluble form (By similarity).
CC   -!- PTM: The soluble form derives from the membrane form by
CC       proteolytic processing (By similarity).
CC   -!- PTM: The membrane form, but not the soluble form, is
CC       phosphorylated on serine residues. Dephosphorylation of the
CC       membrane form occurs by binding to soluble TNFRSF1A/TNFR1 (By
CC       similarity).
CC   -!- SIMILARITY: Belongs to the tumor necrosis factor family.
CC   ---------------------------------------------------------------------
CC   This Swiss-Prot entry is copyright. It is produced through a collaboration
CC   between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC   the European Bioinformatics Institute. There are no restrictions on its
CC   use as long as its content is in no way modified and this statement is not
CC   removed.
CC   ---------------------------------------------------------------------
DR   EMBL; AF019963; AAC31675.1; -; mRNA.
DR   HSSP; P01375; 4TSV.
DR   SMR; O77510; 82-233.
DR   InterPro; IPR006053; TNF_abc.
DR   InterPro; IPR002959; TNF_alpha.
DR   InterPro; IPR006052; TNF_family.
DR   InterPro; IPR003636; TNF_subf.
DR   PANTHER; PTHR11471:SF4; TNF_alpha; 1.
DR   Pfam; PF00229; TNF; 1.
DR   PRINTS; PR01234; TNECROSISFCT.
DR   PRINTS; PR01235; TNFALPHA.
DR   ProDom; PD002012; TNF_subf; 1.
DR   SMART; SM00207; TNF; 1.
DR   PROSITE; PS00251; TNF_1; 1.
DR   PROSITE; PS50049; TNF_2; 1.
KW   Cytokine; Phosphorylation; Signal-anchor; Transmembrane.
FT   CHAIN         1    233       Tumor necrosis factor, membrane form.
FT   CHAIN        77    233       Tumor necrosis factor, soluble form.
FT   TOPO_DOM      1     35       Cytoplasmic (Potential).
FT   TRANSMEM     36     56       Signal-anchor for type II membrane
FT                                protein (Potential).
FT   TOPO_DOM     57    233       Extracellular (Potential).
FT   SITE         76     77       Cleavage (by ADAM17) (By similarity).
FT   MOD_RES       2      2       Phosphoserine (by CK1) (By similarity).
FT   DISULFID    145    177       By similarity.
SQ   SEQUENCE   233 AA;  25658 MW;  B9403255058D4A03 CRC64;

  Query Match             93.0%;  Score 757;  DB 1;  Length 233;
  Best Local Similarity   93.6%;  Pred. No. 4.2e-68;
  Matches  147;  Conservative    1;  Mismatches    9;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| || |||||||||||||||||||||||||||| ||||||||||||||||
Db         77 VRSSSRTPSDKPVVHVVANPQAEGQLQWLNRRANALLANGVELTDNQLVVPSEGLYLIYS 136

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              |||| |||||| |||||||||||||||| |||||||:||||||||||| ||||||||
Db        137 QVLFKGQGCPSNHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 196

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||| ||||||||||||||||||||
Db        197 GGVFQLEKGDRLSAEINLPDYLDFAESGQVYFGIIAL 233


RESULT 8
TNFA_PAPAN
ID   TNFA_PAPAN     STANDARD;      PRT;   233 AA.
AC   P59695;
DT   10-OCT-2003 (Rel. 42, Created)
DT   10-OCT-2003 (Rel. 42, Last sequence update)
DT   13-SEP-2005 (Rel. 48, Last annotation update)
DE   Tumor necrosis factor precursor (TNF-alpha) (Tumor necrosis factor
DE   ligand superfamily member 2) (TNF-a) (Cachectin) [Contains: Tumor
DE   necrosis factor, membrane form; Tumor necrosis factor, soluble form].
GN   Name=TNF; Synonyms=TNFA, TNFSF2;
OS   Papio anubis (Olive baboon).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini;
OC   Cercopithecidae; Cercopithecinae; Papio.
OX   NCBI_TaxID=9555;
RN   [1]
RP   NUCLEOTIDE SEQUENCE.
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RX   MEDLINE=21383618; PubMed=11491535; DOI=10.1007/s002510100322;
RA   Villinger F.J., Bostik P., Mayne A.E., King C.L., Genain C.P.,
RA   Weiss W.R., Ansari A.A.;
RT   "Cloning, sequencing, and homology analysis of nonhuman primate
RT   Fas/Fas-ligand and co-stimulatory molecules.";
RL   Immunogenetics 53:315-328(2001).
CC   -!- FUNCTION: Cytokine that binds to TNFRSF1A/TNFR1 and
CC       TNFRSF1B/TNFBR. It is mainly secreted by macrophages and can
CC       induce cell death of certain tumor cell lines. It is potent
CC       pyrogen causing fever by direct action or by stimulation of
CC       interleukin 1 secretion and is implicated in the induction of
CC       cachexia, Under certain conditions it can stimulate cell
CC       proliferation and induce cell differentiation (By similarity).
CC   -!- SUBUNIT: Homotrimer (By similarity).
CC   -!- SUBCELLULAR LOCATION: Type II membrane protein. Also exists as an
CC       extracellular soluble form (By similarity).
CC   -!- PTM: The soluble form derives from the membrane form by
CC       proteolytic processing (By similarity).
CC   -!- PTM: The membrane form, but not the soluble form, is
CC       phosphorylated on serine residues. Dephosphorylation of the
CC       membrane form occurs by binding to soluble TNFRSF1A/TNFR1 (By
CC       similarity).
CC   -!- SIMILARITY: Belongs to the tumor necrosis factor family.
CC   ---------------------------------------------------------------------
CC   This Swiss-Prot entry is copyright. It is produced through a collaboration
CC   between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC   the European Bioinformatics Institute. There are no restrictions on its
CC   use as long as its content is in no way modified and this statement is not
CC   removed.
CC   ---------------------------------------------------------------------
DR   EMBL; AY234222; AAO85335.1; -; mRNA.
DR   HSSP; P01375; 4TSV.
DR   SMR; P59695; 82-233.
DR   InterPro; IPR006053; TNF_abc.
DR   InterPro; IPR002959; TNF_alpha.
DR   InterPro; IPR006052; TNF_family.
DR   InterPro; IPR003636; TNF_subf.
DR   PANTHER; PTHR11471:SF4; TNF_alpha; 1.
DR   Pfam; PF00229; TNF; 1.
DR   PRINTS; PR01234; TNECROSISFCT.
DR   PRINTS; PR01235; TNFALPHA.
DR   ProDom; PD002012; TNF_subf; 1.
DR   SMART; SM00207; TNF; 1.
DR   PROSITE; PS00251; TNF_1; 1.
DR   PROSITE; PS50049; TNF_2; 1.
KW   Cytokine; Phosphorylation; Signal-anchor; Transmembrane.
FT   CHAIN         1    233       Tumor necrosis factor, membrane form (By
FT                                 similarity).
FT   CHAIN        77    233       Tumor necrosis factor, soluble form (By
FT                                 similarity).
FT   TOPO_DOM      1     34       Cytoplasmic (Potential).
FT   TRANSMEM     35     57       Signal-anchor for type II membrane
FT                                 protein (By similarity).
FT   TOPO_DOM     58    233       Extracellular (Potential).
FT   SITE         76     77       Cleavage (by ADAM17) (By similarity).
FT   MOD_RES       2      2       Phosphoserine (by CK1) (By similarity).
FT   DISULFID    145    177       By similarity.
SQ   SEQUENCE   233 AA;  25736 MW;  0C477F9EB6CC9909 CRC64;

  Query Match             92.6%;  Score 754;  DB 1;  Length 233;
  Best Local Similarity   93.6%;  Pred. No. 8.4e-68;
  Matches  147;  Conservative    1;  Mismatches    9;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| |||||||||||||||||||||||||||||||  ||||||||||||||||
Db         77 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVEPTDNQLVVPSEGLYLIYS 136

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              |||| |||||| |||||||||||||||| |||||||:|||||||||||| ||||||||
Db        137 QVLFKGQGCPSNHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 196

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||| ||||||||||||||||||||
Db        197 GGVFQLEKGDRLSAEINLPDYLDFAESGQVYFGIIAL 233


RESULT 9
O97543_AOTNA
ID   O97543_AOTNA PRELIMINARY;      PRT;   149 AA.
AC   O97543;
DT   01-MAY-1999 (TrEMBLrel. 10, Created)
DT   01-MAY-1999 (TrEMBLrel. 10, Last sequence update)
DT   01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
DE   Tumor necrosis factor alpha (Fragment).
GN   Name=TNF-alpha;
OS   Aotus nancymaae (Ma's night monkey).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Euarchontoglires; Primates; Platyrrhini; Cebidae;
OC   Aotinae; Aotus.
OX   NCBI_TaxID=37293;
RN   [1]
RP   NUCLEOTIDE SEQUENCE.
RX   MEDLINE=22354194; PubMed=12466897; DOI=10.1007/s00251-002-0512-2;
RA   Hernandez E.C., Suarez C.F., Mendez J.A., Echeverry S.J.,
RA   Murillo L.A., Patarroyo M.E.;
RT   "Identification, cloning, and sequencing of different cytokine genes
RT   in four species of owl monkey.";
RL   Immunogenetics 54:645-653(2002).
DR   EMBL; AF014513; AAD01539.1; -; mRNA.
DR   HSSP; P01375; 4TSV.
DR   SMR; O97543; 1-149.
DR   GO; GO:0016020; C:membrane; IEA.
DR   GO; GO:0005164; F:tumor necrosis factor receptor binding; IEA.
DR   GO; GO:0006955; P:immune response; IEA.
DR   InterPro; IPR006053; TNF_abc.
DR   InterPro; IPR002959; TNF_alpha.
DR   InterPro; IPR006052; TNF_family.
DR   InterPro; IPR003636; TNF_subf.
DR   Pfam; PF00229; TNF; 1.
DR   PRINTS; PR01234; TNECROSISFCT.
DR   PRINTS; PR01235; TNFALPHA.
DR   ProDom; PD002012; TNF_subf; 1.
DR   SMART; SM00207; TNF; 1.
DR   PROSITE; PS00251; TNF_1; 1.
DR   PROSITE; PS50049; TNF_2; 1.
FT   NON_TER       1     1
FT   NON_TER     149   149
SQ   SEQUENCE   149 AA;  16466 MW;  3C2A6140778EFA8A CRC64;

  Query Match             91.4%;  Score 744;  DB 2;  Length 149;
  Best Local Similarity   96.0%;  Pred. No. 5e-67;
  Matches  143;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          8 PSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYSQVLFSGQ 67
              ||| ||||||||||||||||||||||||||||||||||||||||||||||||||| ||
Db          1 PSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYSQVLFKGQ 60

Qy         68 GCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYLGGVFQLE 127
              |||||||||||||||||||||| |||||||:|||||||||||| ||||||||||||||
Db         61 GCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYLGGVFQLE 120

Qy        128 PGDRLSAEINRPDYLDFAESGQVYFGIIA 156
              |||||||||||||||||||||||||||||
Db        121 KGDRLSAEINRPDYLDFAESGQVYFGIIA 149


RESULT 10
TNFA_CANFA
ID   TNFA_CANFA     STANDARD;      PRT;   233 AA.
AC   P51742; Q28339;
DT   01-OCT-1996 (Rel. 34, Created)
DT   01-OCT-1996 (Rel. 34, Last sequence update)
DT   13-SEP-2005 (Rel. 48, Last annotation update)
DE   Tumor necrosis factor precursor (TNF-alpha) (Tumor necrosis factor
DE   ligand superfamily member 2) (TNF-a) (Cachectin) [Contains: Tumor
DE   necrosis factor, membrane form; Tumor necrosis factor, soluble form].
```

```
GN   Name=TNF; Synonyms=TNFA, TNFSF2;
OS   Canis familiaris (Dog).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Laurasiatheria; Carnivora; Fissipedia; Canidae;
OC   Canis.
OX   NCBI_TaxID=9615;
RN   [1]
RP   NUCLEOTIDE SEQUENCE [GENOMIC DNA].
RA   Fiers W.;
RT   "Tumour necrosis factor.";
RL   (In) Sim E. (eds.);
RL   The natural immune system humoral factors, pp.65-119, IRL Press,
RL   Oxford (1993).
RN   [2]
RP   NUCLEOTIDE SEQUENCE [MRNA].
RA   Zucker K., Lu P., Fuller L., Asthana D., Esquenazi V., Miller J.;
RT   "Cloning and expression of the cDNA for canine tumor necrosis factor-
RT   alpha in E. coli.";
RL   Lymphokine Res. 13:191-196(1994).
RN   [3]
RP   NUCLEOTIDE SEQUENCE [GENOMIC DNA].
RA   Wagner J.L., Palti Y., DiDario D.D.;
RT   "Genomic map of a portion of the canine MHC class I histocompatibility
RT   complex.";
RL   Submitted (SEP-2003) to the EMBL/GenBank/DDBJ databases.
RN   [4]
RP   NUCLEOTIDE SEQUENCE [MRNA] OF 74-205.
RC   STRAIN=Beagle; TISSUE=Blood;
RA   Gilmore W.H., Carter S.D., Bennett M., Barnes A., Kelly D.F.;
RT   "Expression of canine TNF, IL-1 and IL-6 mRNAs in peripheral blood
RT   monocytes and cell lines.";
RL   Submitted (MAR-1996) to the EMBL/GenBank/DDBJ databases.
CC   -!- FUNCTION: Cytokine that binds to TNFRSF1A/TNFR1 and
CC       TNFRSF1B/TNFBR. It is mainly secreted by macrophages and can
CC       induce cell death of certain tumor cell lines. It is potent
CC       pyrogen causing fever by direct action or by stimulation of
CC       interleukin 1 secretion and is implicated in the induction of
CC       cachexia, Under certain conditions it can stimulate cell
CC       proliferation and induce cell differentiation.
CC   -!- SUBUNIT: Homotrimer (By similarity).
CC   -!- SUBCELLULAR LOCATION: Type II membrane protein. Also exists as an
CC       extracellular soluble form (By similarity).
CC   -!- PTM: The soluble form derives from the membrane form by
CC       proteolytic processing (By similarity).
CC   -!- PTM: The membrane form, but not the soluble form, is
CC       phosphorylated on serine residues. Dephosphorylation of the
CC       membrane form occurs by binding to soluble TNFRSF1A/TNFR1 (By
CC       similarity).
CC   -!- SIMILARITY: Belongs to the tumor necrosis factor family.
CC   ---------------------------------------------------------------------
CC   This Swiss-Prot entry is copyright. It is produced through a collaboration
CC   between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC   the European Bioinformatics Institute. There are no restrictions on its
CC   use as long as its content is in no way modified and this statement is not
CC   removed.
CC   ---------------------------------------------------------------------
DR   EMBL; X94932; CAA64403.1; -; Genomic_DNA.
DR   EMBL; S74068; AAB32391.1; -; mRNA.
DR   EMBL; AY423389; AAR27885.1; -; Genomic_DNA.
DR   EMBL; Z70046; CAA93908.1; -; mRNA.
DR   HSSP; P01375; 4TSV.
DR   SMR; P51742; 82-233.
DR   Ensembl; ENSCAFG00000000517; Canis familiaris.
DR   InterPro; IPR006053; TNF_abc.
DR   InterPro; IPR002959; TNF_alpha.
DR   InterPro; IPR006052; TNF_family.
DR   InterPro; IPR003636; TNF_subf.
DR   PANTHER; PTHR11471:SF4; TNF_alpha; 1.
DR   Pfam; PF00229; TNF; 1.
DR   PRINTS; PR01234; TNECROSISFCT.
DR   PRINTS; PR01235; TNFALPHA.
DR   ProDom; PD002012; TNF_subf; 1.
DR   SMART; SM00207; TNF; 1.
DR   PROSITE; PS00251; TNF_1; 1.
DR   PROSITE; PS50049; TNF_2; 1.
KW   Cytokine; Phosphorylation; Signal-anchor; Transmembrane.
FT   CHAIN        1    233       Tumor necrosis factor, membrane form.
FT   CHAIN       77    233       Tumor necrosis factor, soluble form.
FT   TOPO_DOM     1     35       Cytoplasmic (Potential).
FT   TRANSMEM    36     56       Signal-anchor for type II membrane
FT                               protein (Potential).
FT   TOPO_DOM    57    233       Extracellular (Potential).
FT   SITE        76     77       Cleavage (by ADAM17) (By similarity).
FT   MOD_RES      2      2       Phosphoserine (by CK1) (By similarity).
FT   DISULFID   145    177       By similarity.
FT   CONFLICT    59     60       QR -> PE (in Ref. 2).
FT   CONFLICT    66     66       G -> C (in Ref. 2).
FT   CONFLICT    74     74       A -> V (in Ref. 4).
FT   CONFLICT   111    111       A -> D (in Ref. 2).
FT   CONFLICT   116    116       G -> D (in Ref. 2).
FT   CONFLICT   134    135       IY -> DS (in Ref. 2).
SQ   SEQUENCE   233 AA;  25447 MW;  7B2588FBC8B25340 CRC64;

  Query Match             90.7%;  Score 738;  DB 1;  Length 233;
  Best Local Similarity   89.8%;  Pred. No. 3.5e-66;
  Matches  141;  Conservative    7;  Mismatches    9;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |:||||||| |||||||||:||||||||:|||||||||||||| ||||:|||:|||||||
Db         77 VKSSSRTPSDKPVAHVVANPEAEGQLQWLSRRANALLANGVELTDNQLIVPSDGLYLIYS 136

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              |||| |||||||||||||||| |||||| |||||||:|||||||||| || ||||||||
Db        137 QVLFKGQGCPSTHVLLTHTISRFAVSYQTKVNLLSAIKSPCQRETPEGTEAKPWYEPIYL 196

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||| |:||||||||||||||||||
Db        197 GGVFQLEKGDRLSAEINLPNYLDFAESGQVYFGIIAL 233


RESULT 11
TNFA_FELCA
ID   TNFA_FELCA     STANDARD;      PRT;   233 AA.
AC   P19101; Q8HYM0;
DT   01-NOV-1990 (Rel. 16, Created)
DT   10-OCT-2003 (Rel. 42, Last sequence update)
DT   13-SEP-2005 (Rel. 48, Last annotation update)
DE   Tumor necrosis factor precursor (TNF-alpha) (Tumor necrosis factor
DE   ligand superfamily member 2) (TNF-a) (Cachectin) [Contains: Tumor
DE   necrosis factor, membrane form; Tumor necrosis factor, soluble form].
GN   Name=TNF; Synonyms=TNFA, TNFSF2;
OS   Felis silvestris catus (Cat).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Laurasiatheria; Carnivora; Fissipedia; Felidae;
OC   Felinae; Felis.
OX   NCBI_TaxID=9685;
RN   [1]
RP   NUCLEOTIDE SEQUENCE.
RC   TISSUE=Blood;
RX   MEDLINE=91016860; PubMed=2216740;
RA   McGraw R.A., Coffee B.W., Otto C.M., Drews R.T., Rawlings C.A.;
RT   "Gene sequence of feline tumor necrosis factor alpha.";
RL   Nucleic Acids Res. 18:5563-5563(1990).
RN   [2]
RP   NUCLEOTIDE SEQUENCE [MRNA].
RC   TISSUE=Bone marrow;
RA   Daniel S.L., Brenner C.A., Legendre A.M., Soloman A., Rouse B.T.;
RT   "Feline cytokines TNF alpha and IL-1 beta: PCR cloning and sequencing
RT   of cDNA.";
RL   Anim. Biotechnol. 3:117-121(1992).
RN   [3]
RP   NUCLEOTIDE SEQUENCE OF 95-185.
RA   Susott E.E., Rollo W.A., Venta P.J., Ewart S.L.;
RT   "Characterization of 8 feline type I markers.";
RL   Submitted (DEC-2001) to the EMBL/GenBank/DDBJ databases.
CC   -!- FUNCTION: Cytokine that binds to TNFRSF1A/TNFR1 and
```

```
CC       TNFRSF1B/TNFBR. It is mainly secreted by macrophages and can
CC       induce cell death of certain tumor cell lines. It is potent
CC       pyrogen causing fever by direct action or by stimulation of
CC       interleukin 1 secretion and is implicated in the induction of
CC       cachexia, Under certain conditions it can stimulate cell
CC       proliferation and induce cell differentiation.
CC   -!- SUBUNIT: Homotrimer (By similarity).
CC   -!- SUBCELLULAR LOCATION: Type II membrane protein. Also exists as an
CC       extracellular soluble form (By similarity).
CC   -!- PTM: The soluble form derives from the membrane form by
CC       proteolytic processing (By similarity).
CC   -!- PTM: The membrane form, but not the soluble form, is
CC       phosphorylated on serine residues. Dephosphorylation of the
CC       membrane form occurs by binding to soluble TNFRSF1A/TNFR1 (By
CC       similarity).
CC   -!- SIMILARITY: Belongs to the tumor necrosis factor family.
CC   ---------------------------------------------------------------------
CC   This Swiss-Prot entry is copyright. It is produced through a collaboration
CC   between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC   the European Bioinformatics Institute. There are no restrictions on its
CC   use as long as its content is in no way modified and this statement is not
CC   removed.
CC   ---------------------------------------------------------------------
DR   EMBL; X54000; CAA37948.1; -; Genomic_DNA.
DR   EMBL; M92061; AAA30818.1; -; mRNA.
DR   EMBL; AF459810; AAO15590.1; -; Genomic_DNA.
DR   PIR; S11688; S11688.
DR   HSSP; P01375; 4TSV.
DR   SMR; P19101; 82-233.
DR   InterPro; IPR006053; TNF_abc.
DR   InterPro; IPR002959; TNF_alpha.
DR   InterPro; IPR006052; TNF_family.
DR   InterPro; IPR003636; TNF_subf.
DR   PANTHER; PTHR11471:SF4; TNF_alpha; 1.
DR   Pfam; PF00229; TNF; 1.
DR   PRINTS; PR01234; TNECROSISFCT.
DR   PRINTS; PR01235; TNFALPHA.
DR   ProDom; PD002012; TNF_subf; 1.
DR   SMART; SM00207; TNF; 1.
DR   PROSITE; PS00251; TNF_1; 1.
DR   PROSITE; PS50049; TNF_2; 1.
KW   Cytokine; Phosphorylation; Signal-anchor; Transmembrane.
FT   CHAIN         1    233       Tumor necrosis factor, membrane form.
FT   CHAIN        77    233       Tumor necrosis factor, soluble form.
FT   TOPO_DOM      1     35       Cytoplasmic (Potential).
FT   TRANSMEM     36     56       Signal-anchor for type II membrane
FT                                protein (Potential).
FT   TOPO_DOM     57    233       Extracellular (Potential).
FT   SITE         76     77       Cleavage (by ADAM17) (By similarity).
FT   MOD_RES       2      2       Phosphoserine (by CK1) (By similarity).
FT   DISULFID    145    177       By similarity.
FT   CONFLICT     28     28       G -> R (in Ref. 2).
FT   CONFLICT    104    104       W -> R (in Ref. 1).
FT   CONFLICT    141    141       T -> K (in Ref. 3).
FT   CONFLICT    151    151       L -> H (in Ref. 2).
FT   CONFLICT    155    155       T -> A (in Ref. 1).
FT   CONFLICT    210    210       T -> A (in Ref. 2).
SQ   SEQUENCE   233 AA;  25382 MW;  03E51823A7863510 CRC64;

  Query Match             89.8%;  Score 731;  DB 1;  Length 233;
  Best Local Similarity   89.8%;  Pred. No. 1.8e-65;
  Matches  141;  Conservative    6;  Mismatches   10;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              :|||||||| |||||||||:||||||||:|||||||||||||| |||| |||:||||||| .
Db         77 LRSSSRTPSDKPVAHVVANPEAEGQLQWLSRRANALLANGVELTDNQLKVPSDGLYLIYS 136

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              ||||:|||||||||||||||| |||||| |||||||:|||||||||||||| ||||||||
Db        137 QVLFTGQGCPSTHVLLTHTISRFAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 196

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||| ||| | ||||||||||||||||||
Db        197 GGVFQLEKGDRLSTEINLPAYLDFAESGQVYFGIIAL 233


RESULT 12
TNFA_SAISC
ID   TNFA_SAISC     STANDARD;      PRT;   233 AA.
AC   Q8MKG8;
DT   10-OCT-2003 (Rel. 42, Created)
DT   10-OCT-2003 (Rel. 42, Last sequence update)
DT   13-SEP-2005 (Rel. 48, Last annotation update)
DE   Tumor necrosis factor precursor (TNF-alpha) (Tumor necrosis factor
DE   ligand superfamily member 2) (TNF-a) (Cachectin) [Contains: Tumor
DE   necrosis factor, membrane form; Tumor necrosis factor, soluble form].
GN   Name=TNF; Synonyms=TNFA, TNFSF2;
OS   Saimiri sciureus (Common squirrel monkey).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Euarchontoglires; Primates; Platyrrhini; Cebidae;
OC   Cebinae; Saimiri.
OX   NCBI_TaxID=9521;
RN   [1]
RP   NUCLEOTIDE SEQUENCE.
RX   MEDLINE=21972723; PubMed=11976788; DOI=10.1007/s00251-002-0443-y;
RA   Heraud J.M., Lavergne A., Kazanji M.;
RT   "Molecular cloning, characterization, and quantification of squirrel
RT   monkey (Saimiri sciureus) Th1 and Th2 cytokines.";
RL   Immunogenetics 54:20-29(2002).
RN   [2]
RP   NUCLEOTIDE SEQUENCE.
RX   MEDLINE=22516846; PubMed=12628762; DOI=10.1016/S0165-2427(03)00018-7;
RA   Merien F., Lavergne A., Behr C., Contamin H.;
RT   "Sequencing and analysis of genomic DNA and cDNA encoding TNF-alpha in
RT   the squirrel monkey (Saimiri sciureus).";
RL   Vet. Immunol. Immunopathol. 92:37-43(2003).
CC   -!- FUNCTION: Cytokine that binds to TNFRSF1A/TNFR1 and
CC       TNFRSF1B/TNFBR. It is mainly secreted by macrophages and can
CC       induce cell death of certain tumor cell lines. It is potent
CC       pyrogen causing fever by direct action or by stimulation of
CC       interleukin 1 secretion and is implicated in the induction of
CC       cachexia, Under certain conditions it can stimulate cell
CC       proliferation and induce cell differentiation (By similarity).
CC   -!- SUBUNIT: Homotrimer (By similarity).
CC   -!- SUBCELLULAR LOCATION: Type II membrane protein. Also exists as an
CC       extracellular soluble form (By similarity).
CC   -!- PTM: The soluble form derives from the membrane form by
CC       proteolytic processing (By similarity).
CC   -!- PTM: The membrane form, but not the soluble form, is
CC       phosphorylated on serine residues. Dephosphorylation of the
CC       membrane form occurs by binding to soluble TNFRSF1A/TNFR1 (By
CC       similarity).
CC   -!- SIMILARITY: Belongs to the tumor necrosis factor family.
CC   ---------------------------------------------------------------------
CC   This Swiss-Prot entry is copyright. It is produced through a collaboration
CC   between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC   the European Bioinformatics Institute. There are no restrictions on its
CC   use as long as its content is in no way modified and this statement is not
CC   removed.
CC   ---------------------------------------------------------------------
DR   EMBL; AF294760; AAK92047.1; -; mRNA.
DR   EMBL; AJ437697; CAD27179.1; -; Genomic_DNA.
DR   EMBL; AJ437698; CAD27180.1; -; mRNA.
DR   HSSP; P01375; 4TSV.
DR   SMR; Q8MKG8; 82-233.
DR   InterPro; IPR006053; TNF_abc.
DR   InterPro; IPR002959; TNF_alpha.
DR   InterPro; IPR006052; TNF_family.
DR   InterPro; IPR003636; TNF_subf.
DR   PANTHER; PTHR11471:SF4; TNF_alpha; 1.
DR   Pfam; PF00229; TNF; 1.
DR   PRINTS; PR01234; TNECROSISFCT.
DR   PRINTS; PR01235; TNFALPHA.
DR   ProDom; PD002012; TNF_subf; 1.
DR   SMART; SM00207; TNF; 1.
DR   PROSITE; PS00251; TNF_1; 1.
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DR   PROSITE; PS50049; TNF_2; 1.
KW   Cytokine; Phosphorylation; Signal-anchor; Transmembrane.
FT   CHAIN         1    233       Tumor necrosis factor, membrane form (By
FT                                similarity).
FT   CHAIN        77    233       Tumor necrosis factor, soluble form (By
FT                                similarity).
FT   TOPO_DOM      1     32       Cytoplasmic (Potential).
FT   TRANSMEM     33     55       Signal-anchor for type II membrane
FT                                protein (By similarity).
FT   TOPO_DOM     56    233       Extracellular (Potential).
FT   SITE         76     77       Cleavage (by ADAM17) (By similarity).
FT   MOD_RES       2      2       Phosphoserine (by CK1) (By similarity).
FT   DISULFID    145    177       By similarity.
SQ   SEQUENCE   233 AA;  25578 MW;  197FB066F744FCAD CRC64;

  Query Match             87.0%;  Score 708;  DB 1;  Length 233;
  Best Local Similarity   87.3%;  Pred. No. 3.8e-63;
  Matches  137;  Conservative    7;  Mismatches   13;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||| ||| ||||||||||||||||||||||||||||||||||||||:||||:||
Db         77 VRSSSRIPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSDGLYLVYS 136

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              |||| |||||||  ||||:|||||||||  |||||||:|||||||| ||: :||||||||
Db        137 QVLFKGQGCPSTFTLLTHSISRIAVSYQAKVNLLSAIKSPCQRETPRGAKTHPWYEPIYL 196

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||: || || ||||||||||||
Db        197 GGVFQLEKGDRLSAEISPPDSLDLAESGQVYFGIIAL 233


RESULT 13
O97538_AOTVO
ID   O97538_AOTVO PRELIMINARY;      PRT;   149 AA.
AC   O97538;
DT   01-MAY-1999 (TrEMBLrel. 10, Created)
DT   01-MAY-1999 (TrEMBLrel. 10, Last sequence update)
DT   01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
DE   Tumor necrosis factor alpha (Fragment).
GN   Name=TNF-alpha;
OS   Aotus vociferans (Spix's owl monkey).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Euarchontoglires; Primates; Platyrrhini; Cebidae;
OC   Aotinae; Aotus.
OX   NCBI_TaxID=57176;
RN   [1]
RP   NUCLEOTIDE SEQUENCE.
RX   MEDLINE=22354194; PubMed=12466897; DOI=10.1007/s00251-002-0512-2;
RA   Hernandez E.C., Suarez C.F., Mendez J.A., Echeverry S.J.,
RA   Murillo L.A., Patarroyo M.E.;
RT   "Identification, cloning, and sequencing of different cytokine genes
RT   in four species of owl monkey.";
RL   Immunogenetics 54:645-653(2002).
DR   EMBL; AF014508; AAD01534.1; -; mRNA.
DR   HSSP; P01375; 4TSV.
DR   SMR; O97538; 1-149.
DR   GO; GO:0016020; C:membrane; IEA.
DR   GO; GO:0005164; F:tumor necrosis factor receptor binding; IEA.
DR   GO; GO:0006955; P:immune response; IEA.
DR   InterPro; IPR006053; TNF_abc.
DR   InterPro; IPR002959; TNF_alpha.
DR   InterPro; IPR006052; TNF_family.
DR   InterPro; IPR003636; TNF_subf.
DR   Pfam; PF00229; TNF; 1.
DR   PRINTS; PR01234; TNECROSISFCT.
DR   PRINTS; PR01235; TNFALPHA.
DR   ProDom; PD002012; TNF_subf; 1.
DR   SMART; SM00207; TNF; 1.
DR   PROSITE; PS00251; TNF_1; 1.
DR   PROSITE; PS50049; TNF_2; 1.
FT   NON_TER       1      1
FT   NON_TER     149    149
SQ   SEQUENCE   149 AA;  16415 MW;  86F1B9BCED16E689 CRC64;

  Query Match             86.2%;  Score 702;  DB 2;  Length 149;
  Best Local Similarity   89.9%;  Pred. No. 8.8e-63;
  Matches  134;  Conservative    5;  Mismatches   10;  Indels    0;  Gaps    0;

Qy          8 PSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYSQVLFSGQ 67
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Db          1 PSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLVYSQVLFKGQ 60

Qy         68 GCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYLGGVFQLE 127
              ||||| :||||:|||||||||  |||||||:|||||||| ||: |||||||||||||||
Db         61 GCPSTFMLLTHSISRIAVSYQAKVNLLSAIKSPCQRETPRGAKTNPWYEPIYLGGVFQLE 120

Qy        128 PGDRLSAEINRPDYLDFAESGQVYFGIIA 156
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Db        121 KGDRLSAEINLPDYLDLAESGQVYFGIIA 149


RESULT 14
Q9TTG8_AOTNI
ID   Q9TTG8_AOTNI PRELIMINARY;      PRT;   149 AA.
AC   Q9TTG8;
DT   01-MAY-2000 (TrEMBLrel. 13, Created)
DT   01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
DT   01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
DE   Tumor necrosis factor alpha (Fragment).
GN   Name=TNF-alpha;
OS   Aotus nigriceps (Black-headed owl monkey).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Euarchontoglires; Primates; Platyrrhini; Cebidae;
OC   Aotinae; Aotus.
OX   NCBI_TaxID=57175;
RN   [1]
RP   NUCLEOTIDE SEQUENCE.
RX   MEDLINE=22354194; PubMed=12466897; DOI=10.1007/s00251-002-0512-2;
RA   Hernandez E.C., Suarez C.F., Mendez J.A., Echeverry S.J.,
RA   Murillo L.A., Patarroyo M.E.;
RT   "Identification, cloning, and sequencing of different cytokine genes
RT   in four species of owl monkey.";
RL   Immunogenetics 54:645-653(2002).
DR   EMBL; AF097328; AAF21303.1; -; mRNA.
DR   HSSP; P01375; 4TSV.
DR   SMR; Q9TTG8; 1-149.
DR   GO; GO:0016020; C:membrane; IEA.
DR   GO; GO:0005164; F:tumor necrosis factor receptor binding; IEA.
DR   GO; GO:0006955; P:immune response; IEA.
DR   InterPro; IPR006053; TNF_abc.
DR   InterPro; IPR002959; TNF_alpha.
DR   InterPro; IPR006052; TNF_family.
DR   InterPro; IPR003636; TNF_subf.
DR   Pfam; PF00229; TNF; 1.
DR   PRINTS; PR01234; TNECROSISFCT.
DR   PRINTS; PR01235; TNFALPHA.
DR   ProDom; PD002012; TNF_subf; 1.
DR   PROSITE; PS00251; TNF_1; 1.
DR   PROSITE; PS50049; TNF_2; 1.
FT   NON_TER       1      1
FT   NON_TER     149    149
SQ   SEQUENCE   149 AA;  16415 MW;  86F1B9BCED16E689 CRC64;

  Query Match             86.2%;  Score 702;  DB 2;  Length 149;
  Best Local Similarity   89.9%;  Pred. No. 8.8e-63;
  Matches  134;  Conservative    5;  Mismatches   10;  Indels    0;  Gaps    0;

Qy          8 PSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYSQVLFSGQ 67
              ||| |||||||||||||||||||||||||||||||||||||||||||:|||||| ||
Db          1 PSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLVYSQVLFKGQ 60

Qy         68 GCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYLGGVFQLE 127
              ||||| :||||:|||||||||  |||||||:|||||||| ||: |||||||||||||||
Db         61 GCPSTFMLLTHSISRIAVSYQAKVNLLSAIKSPCQRETPRGAKTNPWYEPIYLGGVFQLE 120
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Qy        128 PGDRLSAEINRPDYLDFAESGQVYFGIIA 156
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Db        121 KGDRLSAEINLPDYLDLAESGQVYFGIIA 149


RESULT 15
TNFA_HORSE
ID   TNFA_HORSE     STANDARD;      PRT;   234 AA.
AC   P29553; Q9TTJ3;
DT   01-APR-1993 (Rel. 25, Created)
DT   01-APR-1993 (Rel. 25, Last sequence update)
DT   13-SEP-2005 (Rel. 48, Last annotation update)
DE   Tumor necrosis factor precursor (TNF-alpha) (Tumor necrosis factor
DE   ligand superfamily member 2) (TNF-a) (Cachectin) [Contains: Tumor
DE   necrosis factor, membrane form; Tumor necrosis factor, soluble form].
GN   Name=TNF; Synonyms=TNFA, TNFSF2;
OS   Equus caballus (Horse).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Laurasiatheria; Perissodactyla; Equidae; Equus.
OX   NCBI_TaxID=9796;
RN   [1]
RP   NUCLEOTIDE SEQUENCE.
RX   MEDLINE=92084125; PubMed=1748301; DOI=10.1016/0378-1119(91)90333-7;
RA   Su X., Morris D.D., McGraw R.A.;
RT   "Cloning and characterization of gene TNF alpha encoding equine tumor
RT   necrosis factor alpha.";
RL   Gene 107:319-321(1991).
RN   [2]
RP   NUCLEOTIDE SEQUENCE.
RC   STRAIN=Thoroughbred; TISSUE=Artery;
RA   Ishida N., Sato F., Hasegawa T.;
RT   "Molecular cloning of equine tumor necrosis factor-alpha mRNA.";
RL   Submitted (DEC-1999) to the EMBL/GenBank/DDBJ databases.
CC   -!- FUNCTION: Cytokine that binds to TNFRSF1A/TNFR1 and
CC       TNFRSF1B/TNFBR. It is mainly secreted by macrophages and can
CC       induce cell death of certain tumor cell lines. It is potent
CC       pyrogen causing fever by direct action or by stimulation of
CC       interleukin 1 secretion and is implicated in the induction of
CC       cachexia, Under certain conditions it can stimulate cell
CC       proliferation and induce cell differentiation.
CC   -!- SUBUNIT: Homotrimer (By similarity).
CC   -!- SUBCELLULAR LOCATION: Type II membrane protein. Also exists as an
CC       extracellular soluble form (By similarity).
CC   -!- PTM: The soluble form derives from the membrane form by
CC       proteolytic processing (By similarity).
CC   -!- PTM: The membrane form, but not the soluble form, is
CC       phosphorylated on serine residues. Dephosphorylation of the
CC       membrane form occurs by binding to soluble TNFRSF1A/TNFR1 (By
CC       similarity).
CC   -!- SIMILARITY: Belongs to the tumor necrosis factor family.
CC   ---------------------------------------------------------------------
CC   This Swiss-Prot entry is copyright. It is produced through a collaboration
CC   between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC   the European Bioinformatics Institute. There are no restrictions on its
CC   use as long as its content is in no way modified and this statement is not
CC   removed.
CC   ---------------------------------------------------------------------
DR   EMBL; M64087; AAA30959.1; -; Genomic_DNA.
DR   EMBL; AB035735; BAA88349.1; -; mRNA.
DR   PIR; JQ1344; JQ1344.
DR   HSSP; P01375; 1A8M.
DR   SMR; P29553; 83-234.
DR   InterPro; IPR006053; TNF_abc.
DR   InterPro; IPR002959; TNF_alpha.
DR   InterPro; IPR006052; TNF_family.
DR   InterPro; IPR003636; TNF_subf.
DR   PANTHER; PTHR11471:SF4; TNF_alpha; 1.
DR   Pfam; PF00229; TNF; 1.
DR   PRINTS; PR01234; TNECROSISFCT.
DR   PRINTS; PR01235; TNFALPHA.
DR   ProDom; PD002012; TNF_subf; 1.
DR   SMART; SM00207; TNF; 1.
DR   PROSITE; PS00251; TNF_1; 1.
DR   PROSITE; PS50049; TNF_2; 1.
KW   Cytokine; Phosphorylation; Signal-anchor; Transmembrane.
FT   CHAIN         1    234       Tumor necrosis factor, membrane form.
FT   CHAIN        78    234       Tumor necrosis factor, soluble form.
FT   TOPO_DOM      1     35       Cytoplasmic (Potential).
FT   TRANSMEM     36     56       Signal-anchor for type II membrane
FT                                protein (Potential).
FT   TOPO_DOM     57    234       Extracellular (Potential).
FT   SITE         77     78       Cleavage (by ADAM17) (By similarity).
FT   MOD_RES       2      2       Phosphoserine (by CK1) (By similarity).
FT   DISULFID    146    178       By similarity.
FT   CONFLICT    177    179       PCH -> LAN (in Ref. 2).
SQ   SEQUENCE   234 AA;  25469 MW;  E79ACE91143DF373 CRC64;

  Query Match             85.6%;  Score 697;  DB 1;  Length 234;
  Best Local Similarity   85.4%;  Pred. No. 5e-62;
  Matches  134;  Conservative   11;  Mismatches   12;  Indels    0;  Gaps    0;

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              :||||||||| |||||||||||||||||: ||||||||||:| ||||||| :|||||||
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Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              |||| |||||||||||||||:|||| : |||||||:|||  |:|| ||| ||||||||
Db        138 QVLFKGQGCPSTHVLLTHTISRLAVSYPSKVNLLSAIKSPCHTESPEQAEAKPWYEPIYL 197

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
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Db        198 GGVFQLEKGDQLSAEINQPNYLDFAESGQVYFGIIAL 234


Search completed: May  5, 2006, 11:26:01
Job time : 54.5 secs
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GenCore version 5.1.7

OM protein - protein search, using sw model

Run on: May 5, 2006, 11:22:28 ; Search time 15.25 Seconds
(without alignments)
851.153 Million cell updates/sec

Title: US-10-668-178-3
Perfect score: 814
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Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 572060 seqs, 82675679 residues

Total number of hits satisfying chosen parameters: 572060

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : Issued_Patents_AA:*
1: /cgn2_6/ptodata/1/iaa/5_COMB.pep:*
2: /cgn2_6/ptodata/1/iaa/6_COMB.pep:*
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4: /cgn2_6/ptodata/1/iaa/PCTUS_COMB.pep:*
5: /cgn2_6/ptodata/1/iaa/RE_COMB.pep:*
6: /cgn2_6/ptodata/1/iaa/backfiles1.pep:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	779	95.7	157	1	US-07-794-400-1	Sequence 1, Appli
2	779	95.7	157	1	US-08-041-648-2	Sequence 2, Appli
3	779	95.7	157	1	US-08-107-235-1	Sequence 1, Appli
4	779	95.7	157	1	US-08-217-529-2	Sequence 2, Appli
5	779	95.7	157	1	US-08-318-193-86	Sequence 86, Appl
6	779	95.7	157	1	US-08-397-470-1	Sequence 1, Appli
7	779	95.7	157	1	US-08-192-102-1	Sequence 1, Appli
8	779	95.7	157	1	US-08-324-799-1	Sequence 1, Appli
9	779	95.7	157	1	US-08-538-875-1	Sequence 1, Appli
10	779	95.7	157	1	US-08-394-600B-17	Sequence 17, Appl
11	779	95.7	157	1	US-08-500-860A-35	Sequence 35, Appl
12	779	95.7	157	1	US-08-192-861A-1	Sequence 1, Appli
13	779	95.7	157	1	US-08-600-783-5	Sequence 5, Appli
14	779	95.7	157	2	US-08-584-031-13	Sequence 13, Appl
15	779	95.7	157	2	US-08-714-960B-1	Sequence 1, Appli
16	779	95.7	157	2	US-09-133-119-1	Sequence 1, Appli
17	779	95.7	157	2	US-08-192-093A-1	Sequence 1, Appli
18	779	95.7	157	2	US-09-598-784-1	Sequence 1, Appli
19	779	95.7	157	2	US-09-496-118B-7	Sequence 7, Appli
20	779	95.7	157	2	US-08-395-456C-17	Sequence 17, Appl
21	779	95.7	157	2	US-08-487-453A-17	Sequence 17, Appl
22	779	95.7	157	2	US-09-582-450-13	Sequence 13, Appl
23	779	95.7	157	2	US-09-934-465-13	Sequence 13, Appl
24	779	95.7	157	2	US-09-756-301B-1	Sequence 1, Appli
25	779	95.7	157	2	US-09-756-398B-1	Sequence 1, Appli
26	779	95.7	157	4	PCT-US92-02190-1	Sequence 1, Appli
27	779	95.7	157	4	PCT-US93-02475-1	Sequence 1, Appli
28	779	95.7	157	4	PCT-US95-02513-17	Sequence 17, Appl
29	779	95.7	157	6	5180811-1	Patent No. 5180811
30	779	95.7	158	2	US-09-645-415A-4	Sequence 4, Appli
31	779	95.7	177	1	US-08-394-600B-21	Sequence 21, Appl
32	779	95.7	177	2	US-08-395-456C-21	Sequence 21, Appl
33	779	95.7	177	2	US-08-487-453A-21	Sequence 21, Appl
34	779	95.7	177	4	PCT-US95-02513-21	Sequence 21, Appl
35	779	95.7	180	2	US-09-645-415A-8	Sequence 8, Appli
36	779	95.7	193	1	US-08-889-909A-3	Sequence 3, Appli
37	779	95.7	193	2	US-09-156-163A-3	Sequence 3, Appli
38	779	95.7	193	2	US-09-982-308B-3	Sequence 3, Appli
39	779	95.7	233	1	US-08-323-445A-10	Sequence 10, Appl
40	779	95.7	233	1	US-08-515-903A-10	Sequence 10, Appl
41	779	95.7	233	1	US-08-912-227-3	Sequence 3, Appli
42	779	95.7	233	1	US-08-230-428B-2	Sequence 2, Appli
43	779	95.7	233	2	US-08-883-086-6	Sequence 6, Appli
44	779	95.7	233	2	US-08-880-342-37	Sequence 37, Appl
45	779	95.7	233	2	US-09-589-287B-3	Sequence 3, Appli

ALIGNMENTS

```
RESULT 1
US-07-794-400-1
; Sequence 1, Application US/07794400
; Patent No. 5422104
;  GENERAL INFORMATION:
;    APPLICANT:  Fiers, W.
;    APPLICANT:  Tavernier, J.
;    APPLICANT:  Van Ostade, X.
;    TITLE OF INVENTION:  TNF-Muteins
;    NUMBER OF SEQUENCES:  24
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Hoffmann-La Roche Inc.
;      STREET:  340 Kingsland Street
;      CITY:  Nutley
;      STATE:  New Jersey
;      COUNTRY:  USA
;      ZIP:  07110
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/07/794,400
;      FILING DATE:  19911120
;      CLASSIFICATION:  435
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  EP 90810901.0
;      FILING DATE:  21-NOV-1990
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Krovatin, William
;      REGISTRATION NUMBER:  33256
;      REFERENCE/DOCKET NUMBER:  4105/136-00
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (201) 235-4387
;      TELEFAX:  (201) 235-3500
;  INFORMATION FOR SEQ ID NO:  1:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  157 amino acids
;      TYPE:  AMINO ACID
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
;    ORIGINAL SOURCE:
;      ORGANISM:  Homo sapiens
;      TISSUE TYPE:  Blood
;      CELL TYPE:  Macrophage
US-07-794-400-1

  Query Match             95.7%;  Score 779;  DB 1;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 9.5e-74;
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  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
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Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              |||| |||||||||||||||||||||| |||||||:|||||||||||||| ||||||||
Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
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Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 2
US-08-041-648-2
; Sequence 2, Application US/08041648
; Patent No. 5486463
;  GENERAL INFORMATION:
;    APPLICANT:  Lesslauer, Werner
;    APPLICANT:  L tscher, Hansruedi
;    APPLICANT:  St ber, Dietrich
;    TITLE OF INVENTION:  TNF-MUTEINS
;    NUMBER OF SEQUENCES:  17
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  George M. Gould, Esq., Hoffmann-La Roche Inc.
;      STREET:  340 Kingsland Street
;      CITY:  Nutley
;      STATE:  New Jersey
;      COUNTRY:  U.S.A.
;      ZIP:  07110-1199
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/041,648
;      FILING DATE:  1-APR-1993
;      CLASSIFICATION:  435
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  EP 92810249.0
;      FILING DATE:  2-APR-1992
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Roseman, Catherine R.
;      REGISTRATION NUMBER:  34240
;      REFERENCE/DOCKET NUMBER:  RAN 4105/147
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (201) 235-6208
;      TELEFAX:  (201) 235-3500
;  INFORMATION FOR SEQ ID NO:  2:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  157 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
US-08-041-648-2

  Query Match             95.7%;  Score 779;  DB 1;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 9.5e-74;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
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Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
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Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
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Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 3
US-08-107-235-1
; Sequence 1, Application US/08107235
; Patent No. 5587457
;  GENERAL INFORMATION:
;    APPLICANT:  Rathjen, Deborah A
;    APPLICANT:  Ferrante, Antonio
;    APPLICANT:  Widmer, Fred
;    TITLE OF INVENTION:  Neutrophil Stimulating Peptides
;    NUMBER OF SEQUENCES:  19
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Allegretti & Witcoff, Ltd.
;      STREET:  10 S. Wacker Dr.
;      CITY:  Chicago
;      STATE:  Illinois
;      COUNTRY:  USA
;      ZIP:  60606
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/107,235
;      FILING DATE:  16-AUG-1993
;      CLASSIFICATION:  530
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 07/930,415
;      FILING DATE:  12-MAR-1991
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  McDonnell, John J
;      REGISTRATION NUMBER:  26,949
;      REFERENCE/DOCKET NUMBER:  92,622A
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  312-715-1000
;      TELEFAX:  312-715-1234
;  INFORMATION FOR SEQ ID NO:  1:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  157 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
;    FEATURE:
;      NAME/KEY:  Peptide
;      LOCATION:  1..157
;      OTHER INFORMATION:  /note= "HUMAN TNF)"
US-08-107-235-1

  Query Match             95.7%;  Score 779;  DB 1;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 9.5e-74;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              |||| |||||||||||||||||||||| |||||||:|||||||||||||| ||||||||
Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| |||||||||||||||||||||||||||||
Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 4
US-08-217-529-2
; Sequence 2, Application US/08217529
; Patent No. 5597899
;  GENERAL INFORMATION:
```

```
;    APPLICANT:  Banner, David
;    APPLICANT:  Lesslauer, Werner
;    APPLICANT:  Lotscher, Hansreudi
;    APPLICANT:  Stuber, Dietrich
;    TITLE OF INVENTION:  Tumor Necrosis Factor Muteins
;    NUMBER OF SEQUENCES:  7
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  George M. Gould, Esq., Hoffmann-La Roche Inc.
;      STREET:  340 Kingsland Street
;      CITY:  Nutley
;      STATE:  New Jersey
;      COUNTRY:  U.S.
;      ZIP:  07110
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/217,529
;      FILING DATE:  24-MAR-1994
;      CLASSIFICATION:  530
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  EP 93810224.1
;      FILING DATE:  29-MAR-1993
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Roseman, Catherine R
;      REGISTRATION NUMBER:  34240
;      REFERENCE/DOCKET NUMBER:  4105/155
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (201) 235-6208
;      TELEFAX:  (201) 235-3500
;  INFORMATION FOR SEQ ID NO:  2:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  157 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
US-08-217-529-2

  Query Match             95.7%;  Score 779;  DB 1;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 9.5e-74;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              |||| |||||||||||||||||||||| |||||||:|||||||||||||| ||||||||
Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
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Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 5
US-08-318-193-86
; Sequence 86, Application US/08318193
; Patent No. 5641663
;  GENERAL INFORMATION:
;    APPLICANT:  GARVIN, Robert T.
;    APPLICANT:  MALEK, Lawrence T.
;    TITLE OF INVENTION:  AN EXPRESSION SYSTEM FOR THE SECRETION
;    TITLE OF INVENTION:  OF BIOACTIVE HUMAN GRANULOCYTE MACROPHAGE COLONY
;    TITLE OF INVENTION:  STIMULATING FACTOR (GM-CSF) AND OTHER HETEROLOGOUS
;    TITLE OF INVENTION:  PROTEINS FROM STREPTOMYCES
;    NUMBER OF SEQUENCES:  91
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Foley & Lardner
;      STREET:  1800 Diagonal Road, Suite 500
;      CITY:  Alexandria
;      STATE:  Virginia
;      COUNTRY:  USA
;      ZIP:  22313-0299
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/318,193
;      FILING DATE:
;      CLASSIFICATION:  435
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US/07/935,314
;      FILING DATE:
;      APPLICATION NUMBER:  US 07/224,568
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  BENT, Stephen A.
;      REGISTRATION NUMBER:  29,768
;      REFERENCE/DOCKET NUMBER:  18740/116 CACO
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (703)836-9300
;      TELEFAX:  (703)683-4109
;      TELEX:  899149
;  INFORMATION FOR SEQ ID NO:  86:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  157 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
US-08-318-193-86

  Query Match             95.7%;  Score 779;  DB 1;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 9.5e-74;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              |||| |||||||||||||||||||||| |||||||:|||||||||||||| ||||||||
Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
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Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 6
US-08-397-470-1
; Sequence 1, Application US/08397470
; Patent No. 5652353
;  GENERAL INFORMATION:
;    APPLICANT:  Fiers, W.
;    APPLICANT:  Tavernier, J.
;    APPLICANT:  Van Ostade, X.
;    TITLE OF INVENTION:  TNF-Muteins
;    NUMBER OF SEQUENCES:  24
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Hoffmann-La Roche Inc.
;      STREET:  340 Kingsland Street
;      CITY:  Nutley
;      STATE:  New Jersey
;      COUNTRY:  USA
;      ZIP:  07110
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/397,470
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;       FILING DATE:  01-MAR-1995
;       CLASSIFICATION:  435
;     PRIOR APPLICATION DATA:
;       APPLICATION NUMBER:  US 07/794,400
;       FILING DATE:  20-NOV-1991
;       APPLICATION NUMBER:  EP 90810901.0
;       FILING DATE:  21-NOV-1990
;     ATTORNEY/AGENT INFORMATION:
;       NAME:  Krovatin, William
;       REGISTRATION NUMBER:  33256
;       REFERENCE/DOCKET NUMBER:  4105/136-00
;     TELECOMMUNICATION INFORMATION:
;       TELEPHONE:  (201) 235-4387
;       TELEFAX:  (201) 235-3500
;   INFORMATION FOR SEQ ID NO:  1:
;     SEQUENCE CHARACTERISTICS:
;       LENGTH:  157 amino acids
;       TYPE:  amino acid
;       TOPOLOGY:  linear
;     MOLECULE TYPE:  protein
;     ORIGINAL SOURCE:
;       ORGANISM:  Homo sapiens
;       TISSUE TYPE:  Blood
;       CELL TYPE:  Macrophage
US-08-397-470-1

  Query Match             95.7%;  Score 779;  DB 1;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 9.5e-74;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
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Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| |||||||||||||||||||||||||||||
Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 7
US-08-192-102-1
; Sequence 1, Application US/08192102
; Patent No. 5656272
;  GENERAL INFORMATION:
;     APPLICANT:  Le, Junming
;     APPLICANT:  Vilcek, Jan
;     APPLICANT:  Daddona, Peter E.
;     APPLICANT:  Ghrayeb, John
;     APPLICANT:  Knight, David M.
;     APPLICANT:  Siegel, Scott A.
;     TITLE OF INVENTION:  ANTI-TNF ANTIBODIES AND ASSAYS EMPLOYING
;     TITLE OF INVENTION:  ANTI-TNF ANTIBODIES
;     NUMBER OF SEQUENCES:  19
;     CORRESPONDENCE ADDRESS:
;       ADDRESSEE:  Hamilton, Brook, Smith & Reynolds, P.C.
;       STREET:  Two Militia Drive
;       CITY:  Lexington
;       STATE:  Massachusetts
;       COUNTRY:  USA
;       ZIP:  02173
;     COMPUTER READABLE FORM:
;       MEDIUM TYPE:  Floppy disk
;       COMPUTER:  IBM PC compatible
;       OPERATING SYSTEM:  PC-DOS/MS-DOS
;       SOFTWARE:  PatentIn Release #1.0, Version #1.25
;     CURRENT APPLICATION DATA:
;       APPLICATION NUMBER:  US/08/192,102
;       FILING DATE:  04-FEB-1994
;       CLASSIFICATION:  424
;     PRIOR APPLICATION DATA:
;       APPLICATION NUMBER:  US/08/192,093
;       FILING DATE:  04-FEB-1994
;       APPLICATION NUMBER:  US 08/013,413
;       FILING DATE:  02-FEB-1993
;     PRIOR APPLICATION DATA:
;       APPLICATION NUMBER:  US 08/010,406
;       FILING DATE:  29-JAN-1993
;     PRIOR APPLICATION DATA:
;       APPLICATION NUMBER:  US 07/943,852
;       FILING DATE:  11-SEP-1992
;     PRIOR APPLICATION DATA:
;       APPLICATION NUMBER:  US 07/853,606
;       FILING DATE:  18-MAR-1992
;     PRIOR APPLICATION DATA:
;       APPLICATION NUMBER:  US 07/670,827
;       FILING DATE:  18-MAR-1991
;     ATTORNEY/AGENT INFORMATION:
;       NAME:  Brook, David E.
;       REGISTRATION NUMBER:  22,592
;       REFERENCE/DOCKET NUMBER:  NYU93-01M3
;     TELECOMMUNICATION INFORMATION:
;       TELEPHONE:  (617) 861-6240
;       TELEFAX:  (617) 861-9540
;   INFORMATION FOR SEQ ID NO:  1:
;     SEQUENCE CHARACTERISTICS:
;       LENGTH:  157 amino acids
;       TYPE:  amino acid
;       TOPOLOGY:  linear
;     MOLECULE TYPE:  peptide
US-08-192-102-1

  Query Match             95.7%;  Score 779;  DB 1;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 9.5e-74;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              |||| |||||||||||||||||||||| |||||||:||||||||||||| ||||||||
Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| |||||||||||||||||||||||||||||
Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 8
US-08-324-799-1
; Sequence 1, Application US/08324799
; Patent No. 5698195
;  GENERAL INFORMATION:
;     APPLICANT:  Le, Junming
;     APPLICANT:  Vilcek, Jan
;     APPLICANT:  Daddona, Peter E.
;     APPLICANT:  Ghrayeb, John
;     APPLICANT:  Knight, David M.
;     APPLICANT:  Siegel, Scott A.
;     TITLE OF INVENTION:  ANTI-TNF ANTIBODIES AND PEPTIDES
;     TITLE OF INVENTION:  OF HUMAN TUMOR NECROSIS FACTOR
;     NUMBER OF SEQUENCES:  19
;     CORRESPONDENCE ADDRESS:
;       ADDRESSEE:  Hamilton, Brook, Smith & Reynolds, P.C.
;       STREET:  Two Militia Drive
;       CITY:  Lexington
;       STATE:  Massachusetts
;       COUNTRY:  USA
;       ZIP:  02173
;     COMPUTER READABLE FORM:
;       MEDIUM TYPE:  Floppy disk
;       COMPUTER:  IBM PC compatible
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;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/324,799
;      FILING DATE:  18-OCT-1994
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  08/192,093
;      FILING DATE:  04-FEB-1994
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  08/192,102
;      FILING DATE:  04-FEB-1994
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  08/192,861
;      FILING DATE:  04-FEB-1994
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 08/013,413
;      FILING DATE:  02-FEB-1993
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 08/010,406
;      FILING DATE:  29-JAN-1993
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 07/943,852
;      FILING DATE:  11-SEP-1992
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 07/853,606
;      FILING DATE:  18-MAR-1992
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 07/670,827
;      FILING DATE:  18-MAR-1991
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Brook, David E.
;      REGISTRATION NUMBER:  22,592
;      REFERENCE/DOCKET NUMBER:  NYU93-01M4
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (617) 861-6240
;      TELEFAX:  (617) 861-9540
;  INFORMATION FOR SEQ ID NO:  1:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  157 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  peptide
US-08-324-799-1

  Query Match             95.7%;  Score 779;  DB 1;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 9.5e-74;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| |||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              |||| |||||||||||||||||||||| ||||||:||||||||||||| ||||||||
Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| |||||||||||||||||||||||||||||
Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 9
US-08-538-875-1
; Sequence 1, Application US/08538875
; Patent No. 5773582
;  GENERAL INFORMATION:
;    APPLICANT:  Shin, Hang-Cheol
;    APPLICANT:  Shin, Nam-Kyu
;    APPLICANT:  Lee, Inkyung
;    APPLICANT:  Kang, Sungzong
;    TITLE OF INVENTION:  TUMOR NECROSIS FACTOR MUTEINS
;    NUMBER OF SEQUENCES:  73
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Shin, Hang-Cheol
;      STREET:  Jukong Gocheung Apt. 1014-806, Haan-dong
;      CITY:  Kwangmyung-shi
;      STATE:  Kyungki-do
;      COUNTRY:  Republic of Korea
;      ZIP:  423-060
;      ADDRESSEE:  Shin, Nam-Kyu
;      STREET:  #181-404 Sadang-4-dong, Dongjak-ku
;      CITY:  Seoul
;      STATE:
;      COUNTRY:  Republic of Korea
;      ZIP:  156-094
;      ADDRESSEE:  Lee, Inkyung
;      STREET:  11/2, #302-39 Juan-4-dong, Nam-ku
;      CITY:  Incheon
;      STATE:
;      COUNTRY:  Republic of Korea
;      ZIP:  402-204
;      ADDRESSEE:  Kang, Sungzong
;      STREET:  #84-4 Daeshin-dong, Seodaemun-ku
;      CITY:  Seoul
;      STATE:
;      COUNTRY:  Republic of Korea
;      ZIP:  120-160
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Diskette 3.5inch 2.0Mb storage
;      COMPUTER:  IBM PC/AT
;      OPERATING SYSTEM:  MS-DOS
;      SOFTWARE:  WordPerfect 5.1
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/538,875
;      FILING DATE:
;      CLASSIFICATION:  435
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/193,336
;      FILING DATE:
;      APPLICATION NUMBER:  KR 93-1751
;      FILING DATE:  9-FEB-1993
;    ATTORNEY/AGENT INFORMATION:
;      NAME:
;      REGISTRATION NUMBER:
;      REFERENCE/DOCKET NUMBER:
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:
;      TELEFAX:
;  INFORMATION FOR SEQ ID NO:  1:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  157 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
US-08-538-875-1

  Query Match             95.7%;  Score 779;  DB 1;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 9.5e-74;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| |||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              |||| |||||||||||||||||||||| ||||||:||||||||||||| ||||||||
Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
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Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 10
US-08-394-600B-17
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; Sequence 17, Application US/08394600B
; Patent No. 5843693
;  GENERAL INFORMATION:
;    APPLICANT:  Halenbeck, Robert F.
;    APPLICANT:  Jewell, David A.
;    APPLICANT:  Koths, Kirston E.
;    APPLICANT:  Kriegler, Michael
;    APPLICANT:  Perez, Carl
;    TITLE OF INVENTION:  Compositions for the Inhibition of
;    TITLE OF INVENTION:  Protein Hormone Formation and Uses Thereof
;    NUMBER OF SEQUENCES:  28
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  McAndrews, Held & Malloy, Ltd.
;      STREET:  500 West Madison Street; 34th Floor
;      CITY:  Chicago
;      STATE:  Illinois
;      COUNTRY:  United States of America
;      ZIP:  60661
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/394,600B
;      FILING DATE:  02/27/95
;      CLASSIFICATION:  435
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Donald J. Pochopien
;      REGISTRATION NUMBER:  32,167
;      REFERENCE/DOCKET NUMBER:  820.005/11850US05
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  312/707-8889
;      TELEFAX:  312/707-9155
;      TELEX:
;  INFORMATION FOR SEQ ID NO:  17:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  157 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
US-08-394-600B-17

  Query Match             95.7%;  Score 779;  DB 1;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 9.5e-74;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              |||| |||||||||||||||||||||| |||||||:|||||||||||||| ||||||||
Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| |||||||||||||||||||||||||||||
Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 11
US-08-500-860A-35
; Sequence 35, Application US/08500860A
; Patent No. 5891679
;  GENERAL INFORMATION:
;    APPLICANT:  LUCAS, RUDOLPH
;    APPLICANT:  DE BAETSELIER, PATRICK
;    APPLICANT:  FRANSEN, LUCIE
;    APPLICANT:  SABLON, ERWIN
;    TITLE OF INVENTION:  TNF-MUTEINS, A PROCESS FOR PREPARING THEM AND
;    TITLE OF INVENTION:  THEIR USE AS ACTIVE SUBSTANCES IN PHARMACEUTICAL COMPOSITIONS
;    NUMBER OF SEQUENCES:  36
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  NIXON & VANDERHYE P.C.
;      STREET:  1100 NORTH GLEBE ROAD
;      CITY:  ARLINGTON
;      STATE:  VIRGINIA
;      COUNTRY:  U.S.A.
;      ZIP:  22201-4714
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/500,860A
;      FILING DATE:
;      CLASSIFICATION:  435
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  BYRNE, THOMAS E.
;      REGISTRATION NUMBER:  32,205
;      REFERENCE/DOCKET NUMBER:  1487-8
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (703)816-4000
;      TELEFAX:  (703)816-4100
;      TELEX:  200797 NIXN UR
;  INFORMATION FOR SEQ ID NO:  35:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  157 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  peptide
US-08-500-860A-35

  Query Match             95.7%;  Score 779;  DB 1;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 9.5e-74;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
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Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

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RESULT 12
US-08-192-861A-1
; Sequence 1, Application US/08192861A
; Patent No. 5919452
;  GENERAL INFORMATION:
;    APPLICANT:  Le, Junming
;    APPLICANT:  Vilcek, Jan
;    APPLICANT:  Daddona, Peter E.
;    APPLICANT:  Ghrayeb, John
;    APPLICANT:  Knight, David M.
;    APPLICANT:  Siegel, Scott A.
;    TITLE OF INVENTION:  METHODS OF TREATING TNF'-MEDIATED DISEASE USING
;    TITLE OF INVENTION:  CHIMERIC ANTI-TNF ANTIBODIES (As Amended)
;    NUMBER OF SEQUENCES:  19
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Hamilton, Brook, Smith & Reynolds, P.C.
;      STREET:  Two Militia Drive
;      CITY:  Lexington
;      STATE:  Massachusetts
;      COUNTRY:  USA
;      ZIP:  02173
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
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;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/192,861A
;      FILING DATE:  04-FEB-1994
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 08/013,413
;      FILING DATE:  02-FEB-1993
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 08/010,406
;      FILING DATE:  29-JAN-1993
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 07/943,852
;      FILING DATE:  11-SEP-1992
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 07/853,606
;      FILING DATE:  18-MAR-1992
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 07/670,827
;      FILING DATE:  18-MAR-1991
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Brook, David E.
;      REGISTRATION NUMBER:  22,592
;      REFERENCE/DOCKET NUMBER:  NYU93-01M2
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (781) 861-6240
;      TELEFAX:  (781) 861-9540
;  INFORMATION FOR SEQ ID NO:  1:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  157 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  peptide
US-08-192-861A-1

  Query Match             95.7%;  Score 779;  DB 1;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 9.5e-74;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
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Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
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Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
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Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 13
US-08-600-783-5
; Sequence 5, Application US/08600783
; Patent No. 5962267
;  GENERAL INFORMATION:
;    APPLICANT:  SHIN, Hang Cheol
;    APPLICANT:  CHANG, Seung Gu
;    APPLICANT:  KIM, Dae Young
;    APPLICANT:  KIM, Chong Suhl
;    TITLE OF INVENTION:  Proinsulin Derivative and Process
;    TITLE OF INVENTION:  for Producing Human Insulin
;    NUMBER OF SEQUENCES:  36
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  SHIN, Hang Cheol
;      STREET:  Ssangma-Hanshin Apt. 102-1206,
;      STREET:  #245 Cholsan-dong
;      CITY:  Kwangmyung-shi
;      STATE:  Kyungki-do
;      COUNTRY:  Republic of Korea
;      ZIP:  423-030
;      ADDRESSEE:  CHANG, Seung Gu
;      STREET:  Hyundai Apt. 71-203, Apkujong-dong,
;      STREET:  Kangnam-ku
;      CITY:  Seoul
;      STATE:  Seoul
;      COUNTRY:  Republic of Korea
;      ZIP:  135-110
;      ADDRESSEE:  KIM, Dae Young
;      STREET:  Sosa Jukong Apt. 108-202, Sosa Bon-dong,
;      STREET:  Sosa-ku
;      CITY:  Bucheon-shi
;      STATE:  Kyungki-do
;      COUNTRY:  Republic of Korea
;      ZIP:  422-230
;      ADDRESSEE:  KIM, Chong Suhl
;      STREET:  Garden Heights Apt. 202-801, #100,
;      STREET:  Hwangkeum-dong, Soosung-ku
;      CITY:  Taegu
;      STATE:  Taegu
;      COUNTRY:  Republic of Korea
;      ZIP:  706-040
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy Disk, 3.5 inch, 1.44MB storage
;      COMPUTER:  IBM PC/AT
;      OPERATING SYSTEM:  MS-DOS
;      SOFTWARE:  Word Perfect 5.1
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/600,783
;      FILING DATE:
;      CLASSIFICATION:  514
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  KR 95-2751
;      FILING DATE:  15-FEB-1995
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Shahan Islam
;      REGISTRATION NUMBER:  32,507
;      REFERENCE/DOCKET NUMBER:
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (212) 278-1000
;      TELEFAX:  (212) 953-7249
;  INFORMATION FOR SEQ ID NO:  5:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  157 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
US-08-600-783-5

  Query Match             95.7%;  Score 779;  DB 1;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 9.5e-74;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
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Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
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Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
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Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 14
US-08-584-031-13
; Sequence 13, Application US/08584031A
; Patent No. 6030945
; GENERAL INFORMATION:
;  APPLICANT: Ashkenazi, Avi J.
;  TITLE OF INVENTION: APO-2 LIGAND
;  FILE REFERENCE: 11669.22US03
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;  CURRENT APPLICATION NUMBER: US/08/584,031A
;  CURRENT FILING DATE: 1996-01-09
;  NUMBER OF SEQ ID NOS: 17
;  SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 13
;   LENGTH: 157
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-08-584-031-13

  Query Match             95.7%;  Score 779;  DB 2;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 9.5e-74;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              |||| |||||||||||||||||||||| |||||||:||||||||||||| ||||||||
Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
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RESULT 15
US-08-714-960B-1
; Sequence 1, Application US/08714960B
; Patent No. 6121237
;  GENERAL INFORMATION:
;    APPLICANT:  RATHJEN, Deborah A
;    APPLICANT:  FERRANTE, Antonio
;    TITLE OF INVENTION:  Neutrophil Stimulating Peptides
;    NUMBER OF SEQUENCES:  19
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  BANNER & WITCOFF, LTD.
;      STREET:  10 S. Wacker Drive, Suite 3000
;      CITY:  Chicago
;      STATE:  Illinois
;      COUNTRY:  USA
;      ZIP:  60606
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  1.44 Mb storage diskette, 3.50 inch
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  IBM compatible PC/MS-DOS
;      SOFTWARE:  WordPerfect version 6.1
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/714,960B
;      FILING DATE:  17-SEP-1996
;      CLASSIFICATION:  514
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  AU PJ9065
;      FILING DATE:  12-MAR-1990
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  PCT/AU91/00086
;      FILING DATE:  12-MAR-1991
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 07/930,415
;      FILING DATE:  09-NOV-1992
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 08/107,235
;      FILING DATE:  16-AUG-1993
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Resis, Robert H.
;      REGISTRATION NUMBER:  32,168
;      REFERENCE/DOCKET NUMBER:  92,622-B
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (312) 715-1000
;      TELEFAX:  (312) 715-1234
;  INFORMATION FOR SEQ ID NO:  1:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  157 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  not relevant
;    MOLECULE TYPE:  protein
;    FEATURE:
;      NAME/KEY:  Protein
;      LOCATION:  1..157
;      OTHER INFORMATION:  /note= "Human TNF"
US-08-714-960B-1

  Query Match             95.7%;  Score 779;  DB 2;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 9.5e-74;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
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Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
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Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
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Job time : 16.25 secs
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OM protein - protein search, using sw model

Run on: May 5, 2006, 11:26:23 ; Search time 45.5 Seconds
(without alignments)
1441.741 Million cell updates/sec

Title: US-10-668-178-3
Perfect score: 814
Sequence: 1 VRSSSRTPSDMPVAHVVANP.....RPDYLDFAESGQVYFGIIAL 157

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 1867569 seqs, 417829326 residues

Total number of hits satisfying chosen parameters: 1867569

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : Published_Applications_AA_Main:*
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2: /cgn2_6/ptodata/1/pubpaa/US08_PUBCOMB.pep:*
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	814	100.0	157	4	US-10-354-985-3	Sequence 3, Appli
2	814	100.0	157	5	US-10-668-178-3	Sequence 3, Appli
3	814	100.0	157	5	US-10-668-178-13	Sequence 13, Appl
4	779	95.7	157	3	US-09-756-301A-1	Sequence 1, Appli
5	779	95.7	157	3	US-09-927-703-1	Sequence 1, Appli
6	779	95.7	157	3	US-09-854-280-19	Sequence 19, Appl
7	779	95.7	157	3	US-09-934-465-13	Sequence 13, Appl
8	779	95.7	157	3	US-09-766-535A-1	Sequence 1, Appli
9	779	95.7	157	3	US-09-854-208-19	Sequence 19, Appl
10	779	95.7	157	3	US-09-756-161A-1	Sequence 1, Appli
11	779	95.7	157	3	US-09-903-327A-7	Sequence 7, Appli
12	779	95.7	157	3	US-09-756-398B-1	Sequence 1, Appli
13	779	95.7	157	3	US-09-897-724-1	Sequence 1, Appli
14	779	95.7	157	4	US-10-010-229-1	Sequence 1, Appli
15	779	95.7	157	4	US-10-043-450-1	Sequence 1, Appli
16	779	95.7	157	4	US-10-044-534-1	Sequence 1, Appli
17	779	95.7	157	4	US-10-099-007A-1	Sequence 1, Appli
18	779	95.7	157	4	US-10-043-432-1	Sequence 1, Appli
19	779	95.7	157	4	US-10-119-621-1	Sequence 1, Appli
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22	779	95.7	157	4	US-10-305-347A-9	Sequence 9, Appli
23	779	95.7	157	4	US-10-198-845-1	Sequence 1, Appli
24	779	95.7	157	4	US-10-227-488-1	Sequence 1, Appli
25	779	95.7	157	4	US-10-170-812-7	Sequence 7, Appli
26	779	95.7	157	4	US-10-187-121-1	Sequence 1, Appli
27	779	95.7	157	4	US-10-176-460-1	Sequence 1, Appli
28	779	95.7	157	4	US-10-186-559-1	Sequence 1, Appli
29	779	95.7	157	4	US-10-371-961-1	Sequence 1, Appli
30	779	95.7	157	4	US-10-200-795-1	Sequence 1, Appli
31	779	95.7	157	4	US-10-319-011-1	Sequence 1, Appli
32	779	95.7	157	4	US-10-371-443-1	Sequence 1, Appli
33	779	95.7	157	4	US-10-379-866-1	Sequence 1, Appli
34	779	95.7	157	4	US-10-371-962-1	Sequence 1, Appli
35	779	95.7	157	4	US-10-354-985-1	Sequence 1, Appli
36	779	95.7	157	4	US-10-397-786A-1	Sequence 1, Appli
37	779	95.7	157	4	US-10-665-971-1	Sequence 1, Appli
38	779	95.7	157	4	US-10-637-759-1	Sequence 1, Appli
39	779	95.7	157	4	US-10-327-619-1	Sequence 1, Appli
40	779	95.7	157	4	US-10-774-118-1	Sequence 1, Appli
41	779	95.7	157	4	US-10-394-471B-17	Sequence 17, Appl
42	779	95.7	157	5	US-10-861-685-13	Sequence 13, Appl
43	779	95.7	157	5	US-10-668-178-1	Sequence 1, Appli
44	779	95.7	157	5	US-10-957-134-1	Sequence 1, Appli
45	779	95.7	157	5	US-10-727-155-265	Sequence 265, App

ALIGNMENTS

RESULT 1
US-10-354-985-3
; Sequence 3, Application US/10354985
; Publication No. US20040001802A1
; GENERAL INFORMATION:
; APPLICANT: MAYUMI, Tandanori et al.
; TITLE OF INVENTION: PHYSIOLOGICALLY ACTIVE COMPLEX
; FILE REFERENCE: MAYUMI=2
; CURRENT APPLICATION NUMBER: US/10/354,985
; CURRENT FILING DATE: 2003-01-31
; PRIOR APPLICATION NUMBER: JP 083509/2002
; PRIOR FILING DATE: 2002-03-25
; PRIOR APPLICATION NUMBER: JP 1185387/2002
; PRIOR FILING DATE: 2002-06-26
; NUMBER OF SEQ ID NOS: 12
; SOFTWARE: PatentIn version 3.2
; SEQ ID NO 3
; LENGTH: 157
; TYPE: PRT
; ORGANISM: Artificial
; FEATURE:
; OTHER INFORMATION: Variant protein of human tumor necrosis factor
US-10-354-985-3

Query Match 100.0%; Score 814; DB 4; Length 157;
Best Local Similarity 100.0%; Pred. No. 2.7e-80;
Matches 157; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
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Db          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
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Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
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RESULT 2
US-10-668-178-3
; Sequence 3, Application US/10668178
; Publication No. US20050013795A1
; GENERAL INFORMATION:
; APPLICANT: KABUSHIKI KAISHA HAYASHIBARA SEIBUTSU KAGAKU KENKYUJO
; APPLICANT: MAYUMI, Tadanori
; APPLICANT: TSUTSUMI, Yasuo
; APPLICANT: NAKAGAWA, Shinsaku

```
;  APPLICANT:  IKEGAMI, Hakuo
;  TITLE OF INVENTION: Biologically-active conjugate
;  FILE REFERENCE: MAYUMI2A
;  CURRENT APPLICATION NUMBER: US/10/668,178
;  CURRENT FILING DATE:  2003-09-24
;  PRIOR APPLICATION NUMBER: JP 83509/2002
;  PRIOR FILING DATE: 2002-03-25
;  PRIOR APPLICATION NUMBER: JP 185387/2002
;  PRIOR FILING DATE: 2002-06-26
;  NUMBER OF SEQ ID NOS: 16
;  SOFTWARE: PatentIn version 3.3
; SEQ ID NO 3
;   LENGTH: 157
;   TYPE: PRT
;   ORGANISM: Artificial
;   FEATURE:
;   OTHER INFORMATION: synthetic (Variant protein of human tumor necrosis factor)
US-10-668-178-3

  Query Match             100.0%;  Score 814;  DB 5;  Length 157;
  Best Local Similarity   100.0%;  Pred. No. 2.7e-80;
  Matches  157;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              |||||||||||||||||||||||||||||||||||||
Db        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 3
US-10-668-178-13
; Sequence 13, Application US/10668178
; Publication No. US20050013795A1
; GENERAL INFORMATION:
;  APPLICANT: KABUSHIKI KAISHA HAYASHIBARA SEIBUTSU KAGAKU KENKYUJO
;  APPLICANT:  MAYUMI, Tadanori
;  APPLICANT:  TSUTSUMI, Yasuo
;  APPLICANT:  NAKAGAWA, Shinsaku
;  APPLICANT:  IKEGAMI, Hakuo
;  TITLE OF INVENTION: Biologically-active conjugate
;  FILE REFERENCE: MAYUMI2A
;  CURRENT APPLICATION NUMBER: US/10/668,178
;  CURRENT FILING DATE:  2003-09-24
;  PRIOR APPLICATION NUMBER: JP 83509/2002
;  PRIOR FILING DATE: 2002-03-25
;  PRIOR APPLICATION NUMBER: JP 185387/2002
;  PRIOR FILING DATE: 2002-06-26
;  NUMBER OF SEQ ID NOS: 16
;  SOFTWARE: PatentIn version 3.3
; SEQ ID NO 13
;   LENGTH: 157
;   TYPE: PRT
;   ORGANISM: Artificial
;   FEATURE:
;   OTHER INFORMATION: Synthetic Construct
US-10-668-178-13

  Query Match             100.0%;  Score 814;  DB 5;  Length 157;
  Best Local Similarity   100.0%;  Pred. No. 2.7e-80;
  Matches  157;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              |||||||||||||||||||||||||||||||||||||
Db        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 4
US-09-756-301A-1
; Sequence 1, Application US/09756301A
; Patent No. US20010027249A1
; GENERAL INFORMATION:
;  APPLICANT: Le, Junming
;  APPLICANT:  Vilcek, Jan
;  APPLICANT:  Daddona, Peter
;  APPLICANT:  Ghrayeb, John
;  APPLICANT:  Knight, David M.
;  APPLICANT:  Siegel, Scott
;  TITLE OF INVENTION: Anti-TNF Antibodies and Peptides of
;  TITLE OF INVENTION:  Human Tumor Necrosis Factor
;  FILE REFERENCE: 0975.1005-008
;  CURRENT APPLICATION NUMBER: US/09/756,301A
;  CURRENT FILING DATE:  2001-01-08
;  PRIOR APPLICATION NUMBER: U.S. 09/133,119
;  PRIOR FILING DATE: 1998-08-12
;  PRIOR APPLICATION NUMBER: U.S. 08/570,674
;  PRIOR FILING DATE: 1995-12-11
;  PRIOR APPLICATION NUMBER: U.S. 08/324,799
;  PRIOR FILING DATE: 1994-10-18
;  PRIOR APPLICATION NUMBER: U.S. 08/192,102
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: U.S. 08/192,861
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: U.S. 08/192,093
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: U.S. 08/010,406
;  PRIOR FILING DATE: 1993-01-29
;  PRIOR APPLICATION NUMBER: U.S. 08/013,413
;  PRIOR FILING DATE: 1993-02-02
;  PRIOR APPLICATION NUMBER: U.S. 07/943,852
;  PRIOR FILING DATE: 1992-09-11
;  PRIOR APPLICATION NUMBER: U.S. 07/853,606
;  PRIOR FILING DATE: 1992-03-18
;  PRIOR APPLICATION NUMBER: U.S.07/670,827
;  PRIOR FILING DATE: 1991-03-18
;  NUMBER OF SEQ ID NOS: 19
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 1
;   LENGTH: 157
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-09-756-301A-1

  Query Match             95.7%;  Score 779;  DB 3;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 1.7e-76;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              |||| |||||||||||||||||||||||| |||||||:|||||||||||||| ||||||||
Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              |||||||| |||||||||||||||||||||||||||||
Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 5
US-09-927-703-1
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; Sequence 1, Application US/09927703
; Patent No. US20020022720A1
; GENERAL INFORMATION:
; APPLICANT: Le, Junming
; APPLICANT: Vilcek, Jan
; APPLICANT: Daddona, Peter
; APPLICANT: Ghrayeb, John
; APPLICANT: Knight, David M.
; APPLICANT: Siegel, Scott
; TITLE OF INVENTION: Anti-TNF Antibodies and Peptides of
; TITLE OF INVENTION: Human Tumor Necrosis Factor
; FILE REFERENCE: 0975.1005-013
; CURRENT APPLICATION NUMBER: US/09/927,703
; CURRENT FILING DATE: 2001-08-10
; PRIOR APPLICATION NUMBER: U.S. 09/756,398
; PRIOR FILING DATE: 2001-01-08
; PRIOR APPLICATION NUMBER: U.S. 09/133,119
; PRIOR FILING DATE: 1998-08-12
; PRIOR APPLICATION NUMBER: U.S. 08/570,674
; PRIOR FILING DATE: 1995-12-11
; PRIOR APPLICATION NUMBER: U.S. 08/324,799
; PRIOR FILING DATE: 1994-10-18
; PRIOR APPLICATION NUMBER: U.S. 08/192,102
; PRIOR FILING DATE: 1994-02-04
; PRIOR APPLICATION NUMBER: U.S. 08/192,861
; PRIOR FILING DATE: 1994-02-04
; PRIOR APPLICATION NUMBER: U.S. 08/192,093
; PRIOR FILING DATE: 1994-02-04
; PRIOR APPLICATION NUMBER: U.S. 08/010,406
; PRIOR FILING DATE: 1993-01-29
; PRIOR APPLICATION NUMBER: U.S. 08/013,413
; PRIOR FILING DATE: 1993-02-02
; PRIOR APPLICATION NUMBER: U.S. 07/943,852
; PRIOR FILING DATE: 1992-09-11
; PRIOR APPLICATION NUMBER: U.S. 07/853,606
; PRIOR FILING DATE: 1992-03-18
; PRIOR APPLICATION NUMBER: U.S. 07/670,827
; PRIOR FILING DATE: 1991-03-18
; NUMBER OF SEQ ID NOS: 19
; SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 1
; LENGTH: 157
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-927-703-1

Query Match 95.7%; Score 779; DB 3; Length 157;
Best Local Similarity 96.2%; Pred. No. 1.7e-76;
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

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Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              |||| |||||||||||||||||||||||| |||||||:||||||||||||| ||||||||
Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||||||||||||||||||||||||
Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
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RESULT 6
US-09-854-280-19
; Sequence 19, Application US/09854280
; Patent No. US20020052027A1
; GENERAL INFORMATION:
; APPLICANT: Chen, Jian
; APPLICANT: Filvaroff, Ellen
; APPLICANT: Goddard, Audrey
; APPLICANT: Gurney, Austin
; APPLICANT: Li, Hanzhong
; APPLICANT: Wood, William I.
; TITLE OF INVENTION: IL-17 HOMOLOGOUS POLYPEPTIDES AND THERAPEUTIC USES THEREOF
; FILE REFERENCE: P1381R1C2
; CURRENT APPLICATION NUMBER: US/09/854,280
; CURRENT FILING DATE: 2001-05-10
; PRIOR APPLICATION NUMBER: US 09/311,832
; PRIOR FILING DATE: 1999-05-14
; PRIOR APPLICATION NUMBER: US 60/085,579
; PRIOR FILING DATE: 1998-05-15
; PRIOR APPLICATION NUMBER: US 60/113,621
; PRIOR FILING DATE: 1998-12-23
; NUMBER OF SEQ ID NOS: 26
; SEQ ID NO 19
; LENGTH: 157
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-854-280-19

Query Match 95.7%; Score 779; DB 3; Length 157;
Best Local Similarity 96.2%; Pred. No. 1.7e-76;
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

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Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              |||| |||||||||||||||||||||||| |||||||:||||||||||||| ||||||||
Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||||||||||||||||||||||||
Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
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RESULT 7
US-09-934-465-13
; Sequence 13, Application US/09934465
; Patent No. US20020102233A1
; GENERAL INFORMATION:
; APPLICANT: Ashkenazi, Avi J.
; TITLE OF INVENTION: APO-2 LIGAND
; FILE REFERENCE: 11669.22US03
; CURRENT APPLICATION NUMBER: US/09/934,465
; CURRENT FILING DATE: 2001-08-21
; PRIOR APPLICATION NUMBER: 08/584,031
; PRIOR FILING DATE: 1996-01-09
; NUMBER OF SEQ ID NOS: 17
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 13
; LENGTH: 157
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-934-465-13

Query Match 95.7%; Score 779; DB 3; Length 157;
Best Local Similarity 96.2%; Pred. No. 1.7e-76;
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

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Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              |||| |||||||||||||||||||||||| |||||||:||||||||||||| ||||||||
Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||||||||||||||||||||||||
Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
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RESULT 8

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US-09-766-535A-1
; Sequence 1, Application US/09766535A
; Patent No. US20020106372A1
; GENERAL INFORMATION:
;  APPLICANT: Le, Junming
;  APPLICANT:  Vilcek, Jan
;  APPLICANT:  Daddona, Peter
;  APPLICANT:  Ghrayeb, John
;  APPLICANT:  Knight, David M.
;  APPLICANT:  Siegel, Scott
;  TITLE OF INVENTION: Anti-TNF Antibodies and Peptides of
;  TITLE OF INVENTION:  Human Tumor Necrosis Factor
;  FILE REFERENCE: 0975.1005-010
;  CURRENT APPLICATION NUMBER: US/09/766,535A
;  CURRENT FILING DATE:  2001-01-18
;  PRIOR APPLICATION NUMBER: U.S. 09/133,119
;  PRIOR FILING DATE: 1998-08-12
;  PRIOR APPLICATION NUMBER: U.S. 08/570,674
;  PRIOR FILING DATE: 1995-12-11
;  PRIOR APPLICATION NUMBER: U.S. 08/324,799
;  PRIOR FILING DATE: 1994-10-18
;  PRIOR APPLICATION NUMBER: U.S. 08/192,102
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: U.S. 08/192,861
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: U.S. 08/192,093
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: U.S. 08/010,406
;  PRIOR FILING DATE: 1993-01-29
;  PRIOR APPLICATION NUMBER: U.S. 08/013,413
;  PRIOR FILING DATE: 1993-02-02
;  PRIOR APPLICATION NUMBER: U.S. 07/943,852
;  PRIOR FILING DATE: 1992-09-11
;  PRIOR APPLICATION NUMBER: U.S. 07/853,606
;  PRIOR FILING DATE: 1992-03-18
;  PRIOR APPLICATION NUMBER: U.S. 07/670,827
;  PRIOR FILING DATE: 1991-03-18
;  NUMBER OF SEQ ID NOS: 19
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 1
;   LENGTH: 157
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-09-766-535A-1

  Query Match             95.7%;  Score 779;  DB 3;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 1.7e-76;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              |||| |||||||||||||||||||||| |||||||:||||||||||||| ||||||||
Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| |||||||||||||||||||||||||||||
Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 9
US-09-854-208-19
; Sequence 19, Application US/09854208
; Patent No. US20020106743A1
; GENERAL INFORMATION:
;  APPLICANT: Chen, Jian
;  APPLICANT:  Filvaroff, Ellen
;  APPLICANT:  Goddard, Audrey
;  APPLICANT:  Gurney, Austin
;  APPLICANT:  Li, Hanzhong
;  APPLICANT:  Wood, William I.
;  TITLE OF INVENTION: IL-17 HOMOLOGOUS POLYPEPTIDES AND THERAPEUTIC USES
;  TITLE OF INVENTION:  THEREOF
;  FILE REFERENCE: P1381-R1
;  CURRENT APPLICATION NUMBER: US/09/854,208
;  CURRENT FILING DATE:  2001-05-10
;  PRIOR APPLICATION NUMBER: US/09/311,832
;  PRIOR FILING DATE: 1999-05-14
;  PRIOR APPLICATION NUMBER: US 60/085,579
;  PRIOR FILING DATE: 1998-05-15
;  PRIOR APPLICATION NUMBER: US 60/113,621
;  PRIOR FILING DATE: 1998-12-23
;  NUMBER OF SEQ ID NOS: 26
; SEQ ID NO 19
;   LENGTH: 157
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-09-854-208-19

  Query Match             95.7%;  Score 779;  DB 3;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 1.7e-76;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              |||| |||||||||||||||||||||| |||||||:||||||||||||| ||||||||
Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| |||||||||||||||||||||||||||||
Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 10
US-09-756-161A-1
; Sequence 1, Application US/09756161A
; Patent No. US20020132307A1
; GENERAL INFORMATION:
;  APPLICANT: Le, Junming
;  APPLICANT:  Vilcek, Jan
;  APPLICANT:  Daddona, Peter
;  APPLICANT:  Ghrayeb, John
;  APPLICANT:  Knight, David M.
;  APPLICANT:  Siegel, Scott
;  TITLE OF INVENTION: Anti-TNF Antibodies and Peptides of
;  TITLE OF INVENTION:  Human Tumor Necrosis Factor
;  FILE REFERENCE: 0975.1005-007
;  CURRENT APPLICATION NUMBER: US/09/756,161A
;  CURRENT FILING DATE:  2001-01-08
;  PRIOR APPLICATION NUMBER: U.S. 09/133,119
;  PRIOR FILING DATE: 1998-08-12
;  PRIOR APPLICATION NUMBER: U.S. 08/570,674
;  PRIOR FILING DATE: 1995-12-11
;  PRIOR APPLICATION NUMBER: U.S. 08/324,799
;  PRIOR FILING DATE: 1994-10-18
;  PRIOR APPLICATION NUMBER: U.S. 08/192,102
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: U.S. 08/192,861
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: U.S. 08/192,093
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: U.S. 08/010,406
;  PRIOR FILING DATE: 1993-01-29
;  PRIOR APPLICATION NUMBER: U.S. 08/013,413
;  PRIOR FILING DATE: 1993-02-02
;  PRIOR APPLICATION NUMBER: U.S. 07/943,852
;  PRIOR FILING DATE: 1992-09-11
;  PRIOR APPLICATION NUMBER: U.S. 07/853,606
;  PRIOR FILING DATE: 1992-03-18
;  PRIOR APPLICATION NUMBER: U.S.07/670,827
;  PRIOR FILING DATE: 1991-03-18
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;  NUMBER OF SEQ ID NOS: 19
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 1
;   LENGTH: 157
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-09-756-161A-1

  Query Match             95.7%;  Score 779;  DB 3;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 1.7e-76;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| |||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              |||| |||||||||||||||||||||| |||||||:||||||||||||| ||||||||
Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||||||||||||||||||||||||
Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 11
US-09-903-327A-7
; Sequence 7, Application US/09903327A
; Patent No. US20020164333A1
; GENERAL INFORMATION:
;  APPLICANT: Nemerow, Glen R.
;  APPLICANT:  Li, Erguang
;  TITLE OF INVENTION: BIFUNCTIONAL MOLECULES AND VECTORS COMPLEXED THEREWITH FOR TARGET
;  TITLE OF INVENTION:  GENE
;  TITLE OF INVENTION:  DELIVERY
;  FILE REFERENCE: 22908-1228
;  CURRENT APPLICATION NUMBER: US/09/903,327A
;  CURRENT FILING DATE:  2001-07-10
;  PRIOR APPLICATION NUMBER: 09/613,017
;  PRIOR FILING DATE: 2000-07-10
;  NUMBER OF SEQ ID NOS: 33
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 7
;   LENGTH: 157
;   TYPE: PRT
;   ORGANISM: Human
;   FEATURE:
;   NAME/KEY: PEPTIDE
;   LOCATION: (0)...(0)
;   OTHER INFORMATION: Tumor necrosis factor-alpha (TNF alpha, mature
;   OTHER INFORMATION: peptide)
US-09-903-327A-7

  Query Match             95.7%;  Score 779;  DB 3;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 1.7e-76;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| |||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              |||| |||||||||||||||||||||| |||||||:||||||||||||| ||||||||
Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||||||||||||||||||||||||
Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 12
US-09-756-398B-1
; Sequence 1, Application US/09756398B
; Publication No. US20030017584A1
; GENERAL INFORMATION:
;  APPLICANT: Le, Junming
;  APPLICANT:  Vilcek, Jan
;  APPLICANT:  Daddona, Peter
;  APPLICANT:  Ghrayeb, John
;  APPLICANT:  Knight, David M.
;  APPLICANT:  Siegel, Scott
;  TITLE OF INVENTION: Anti-TNF Antibodies and Peptides of
;  TITLE OF INVENTION:  Human Tumor Necrosis Factor
;  FILE REFERENCE: 0975.1005-006
;  CURRENT APPLICATION NUMBER: US/09/756,398B
;  CURRENT FILING DATE:  2001-01-08
;  PRIOR APPLICATION NUMBER: U.S. 09/133,119
;  PRIOR FILING DATE: 1998-08-12
;  PRIOR APPLICATION NUMBER: U.S. 08/570,674
;  PRIOR FILING DATE: 1995-12-11
;  PRIOR APPLICATION NUMBER: U.S. 08/324,799
;  PRIOR FILING DATE: 1994-10-18
;  PRIOR APPLICATION NUMBER: U.S. 08/192,102
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: U.S. 08/192,861
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: U.S. 08/192,093
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: U.S. 08/010,406
;  PRIOR FILING DATE: 1993-01-29
;  PRIOR APPLICATION NUMBER: U.S. 08/013,413
;  PRIOR FILING DATE: 1993-02-02
;  PRIOR APPLICATION NUMBER: U.S. 07/943,852
;  PRIOR FILING DATE: 1992-09-11
;  PRIOR APPLICATION NUMBER: U.S. 07/853,606
;  PRIOR FILING DATE: 1992-03-18
;  PRIOR APPLICATION NUMBER: U.S.07/670,827
;  PRIOR FILING DATE: 1991-03-18
;  NUMBER OF SEQ ID NOS: 19
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 1
;   LENGTH: 157
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-09-756-398B-1

  Query Match             95.7%;  Score 779;  DB 3;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 1.7e-76;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| |||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              |||| |||||||||||||||||||||| |||||||:||||||||||||| ||||||||
Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||||||||||||||||||||||||
Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 13
US-09-897-724-1
; Sequence 1, Application US/09897724
; Publication No. US20030175837A1
; GENERAL INFORMATION:
;  APPLICANT: Le, Junming
;  APPLICANT:  Vilcek, Jan
;  APPLICANT:  Daddona, Peter
;  APPLICANT:  Ghrayeb, John
;  APPLICANT:  Knight, David M.
;  APPLICANT:  Siegel, Scott
;  TITLE OF INVENTION: Anti-TNF Antibodies and Peptides of
;  TITLE OF INVENTION:  Human Tumor Necrosis Factor
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;  FILE REFERENCE: 0975.1005-012
;  CURRENT APPLICATION NUMBER: US/09/897,724
;  CURRENT FILING DATE:  2001-07-02
;  PRIOR APPLICATION NUMBER: U.S. 08/192,093
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: U.S. 08/010,406
;  PRIOR FILING DATE: 1993-01-29
;  PRIOR APPLICATION NUMBER: U.S. 08/013,413
;  PRIOR FILING DATE: 1993-02-02
;  PRIOR APPLICATION NUMBER: U.S. 07/943,852
;  PRIOR FILING DATE: 1992-09-11
;  PRIOR APPLICATION NUMBER: U.S.07/853,606
;  PRIOR FILING DATE: 1992-03-18
;  PRIOR APPLICATION NUMBER: U.S. 07/670,827
;  PRIOR FILING DATE: 1991-03-18
;  NUMBER OF SEQ ID NOS: 19
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 1
;   LENGTH: 157
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-09-897-724-1

  Query Match             95.7%;  Score 779;  DB 3;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 1.7e-76;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              |||| |||||||||||||||||||||| |||||||:||||||||||||| ||||||||
Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||||||||||||||||||||||||
Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 14
US-10-010-229-1
; Sequence 1, Application US/10010229
; Publication No. US20020114805A1
; GENERAL INFORMATION:
;  APPLICANT: Le, Junming
;  APPLICANT:  Vilcek, Jan
;  APPLICANT:  Daddona, Peter
;  APPLICANT:  Ghrayeb, John
;  APPLICANT:  Knight, David M.
;  APPLICANT:  Siegel, Scott
;  TITLE OF INVENTION: Anti-TNF Antibodies and Peptides of
;  TITLE OF INVENTION:  Human Tumor Necrosis Factor
;  FILE REFERENCE: 0975.1005-013
;  CURRENT APPLICATION NUMBER: US/10/010,229
;  CURRENT FILING DATE:  2001-12-07
;  PRIOR APPLICATION NUMBER: US/09/927,703
;  PRIOR FILING DATE: 2001-08-10
;  NUMBER OF SEQ ID NOS: 19
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 1
;   LENGTH: 157
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-10-010-229-1

  Query Match             95.7%;  Score 779;  DB 4;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 1.7e-76;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              |||| |||||||||||||||||||||| |||||||:||||||||||||| ||||||||
Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||||||||||||||||||||||||
Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 15
US-10-043-450-1
; Sequence 1, Application US/10043450
; Publication No. US20020141996A1
; GENERAL INFORMATION:
;  APPLICANT: Le, Junming
;  APPLICANT:  Vilcek, Jan
;  APPLICANT:  Daddona, Peter
;  APPLICANT:  Ghrayeb, John
;  APPLICANT:  Knight, David M.
;  APPLICANT:  Siegel, Scott
;  TITLE OF INVENTION: Anti-TNF Antibodies and Peptides of
;  TITLE OF INVENTION:  Human Tumor Necrosis Factor
;  FILE REFERENCE: 0975.1005-013
;  CURRENT APPLICATION NUMBER: US/10/043,450
;  CURRENT FILING DATE:  2002-01-10
;  PRIOR APPLICATION NUMBER: 09/927,703
;  PRIOR FILING DATE: 2001-08-10
;  PRIOR APPLICATION NUMBER: U.S. 09/756,398
;  PRIOR FILING DATE: 2001-01-08
;  PRIOR APPLICATION NUMBER: U.S. 09/133,119
;  PRIOR FILING DATE: 1998-08-12
;  PRIOR APPLICATION NUMBER: U.S. 08/570,674
;  PRIOR FILING DATE: 1995-12-11
;  PRIOR APPLICATION NUMBER: U.S. 08/324,799
;  PRIOR FILING DATE: 1994-10-18
;  PRIOR APPLICATION NUMBER: U.S. 08/192,102
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: U.S. 08/192,861
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: U.S. 08/192,093
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: U.S. 08/010,406
;  PRIOR FILING DATE: 1993-01-29
;  PRIOR APPLICATION NUMBER: U.S. 08/013,413
;  PRIOR FILING DATE: 1993-02-02
;  PRIOR APPLICATION NUMBER: U.S. 07/943,852
;  PRIOR FILING DATE: 1992-09-11
;  PRIOR APPLICATION NUMBER: U.S. 07/853,606
;  PRIOR FILING DATE: 1992-03-18
;  PRIOR APPLICATION NUMBER: U.S. 07/670,827
;  PRIOR FILING DATE: 1991-03-18
;  NUMBER OF SEQ ID NOS: 19
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 1
;   LENGTH: 157
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-10-043-450-1

  Query Match             95.7%;  Score 779;  DB 4;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 1.7e-76;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              |||| |||||||||||||||||||||| |||||||:||||||||||||| ||||||||
Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||||||||||||||||||||||||
Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
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Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
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Search completed: May 5, 2006, 11:30:22
Job time : 45.5 secs

GenCore version 5.1.7

OM protein - protein search, using sw model

Run on: May 5, 2006, 11:26:47 ; Search time 9.75 Seconds
(without alignments)
745.303 Million cell updates/sec

Title: US-10-668-178-3
Perfect score: 814
Sequence: 1 VRSSSRTPSDMPVAHVVANP.....RPDYLDFAESGQVYFGIIAL 157

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 235405 seqs, 46284737 residues

Total number of hits satisfying chosen parameters: 235405

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : Published_Applications_AA_New:*
1: /SIDS5/ptodata/1/pubpaa/US08_NEW_PUB.pep1:*
2: /SIDS5/ptodata/1/pubpaa/US06_NEW_PUB.pep:*
3: /SIDS5/ptodata/1/pubpaa/US07_NEW_PUB.pep:*
4: /SIDS5/ptodata/1/pubpaa/US08_NEW_PUB.pep:*
5: /SIDS5/ptodata/1/pubpaa/PCT_NEW_PUB.pep:*
6: /SIDS5/ptodata/1/pubpaa/US09_NEW_PUB.pep:*
7: /SIDS5/ptodata/1/pubpaa/US09_NEW_PUB.pep1:*
8: /SIDS5/ptodata/1/pubpaa/US10_NEW_PUB.pep:*
9: /SIDS5/ptodata/1/pubpaa/US10_NEW_PUB.pep1:*
10: /SIDS5/ptodata/1/pubpaa/US11_NEW_PUB.pep:*
11: /SIDS5/ptodata/1/pubpaa/US11_NEW_PUB.pep1:*
12: /SIDS5/ptodata/1/pubpaa/US60_NEW_PUB.pep:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	779	95.7	157	11	US-11-010-954-1	Sequence 1, Appli
2	779	95.7	157	11	US-11-053-750-1	Sequence 1, Appli
3	779	95.7	157	11	US-11-053-749-1	Sequence 1, Appli
4	779	95.7	157	11	US-11-108-001-12	Sequence 12, Appl
5	779	95.7	157	11	US-11-170-753-1	Sequence 1, Appli
6	779	95.7	157	11	US-11-179-359-1	Sequence 1, Appli
7	779	95.7	157	11	US-11-181-030-1	Sequence 1, Appli
8	779	95.7	157	11	US-11-182-033-1	Sequence 1, Appli
9	779	95.7	157	11	US-11-195-589-1	Sequence 1, Appli
10	779	95.7	158	11	US-11-082-544-4	Sequence 4, Appli
11	779	95.7	164	11	US-11-108-001-2	Sequence 2, Appli
12	779	95.7	170	8	US-10-490-953-35	Sequence 35, Appl
13	779	95.7	180	11	US-11-082-544-8	Sequence 8, Appli
14	779	95.7	233	9	US-10-523-328-1	Sequence 1, Appli
15	779	95.7	233	11	US-11-246-387-8	Sequence 8, Appli
16	770	94.6	157	9	US-10-504-389A-55	Sequence 55, Appl
17	634.5	77.9	235	11	US-11-032-797-8	Sequence 8, Appli
18	488	60.0	104	11	US-11-065-669-5	Sequence 5, Appli
19	488	60.0	104	11	US-11-249-714-5	Sequence 5, Appli
20	213.5	26.2	177	9	US-10-999-866-61	Sequence 61, Appl
21	213.5	26.2	205	9	US-10-995-561-1028	Sequence 1028, Ap
22	213.5	26.2	205	9	US-10-995-561-1029	Sequence 1029, Ap
23	171.5	21.1	204	11	US-11-136-341A-31	Sequence 31, Appl
24	171.5	21.1	240	11	US-11-136-341A-1	Sequence 1, Appli
25	169.5	20.8	240	9	US-10-987-663-6	Sequence 6, Appli
26	166.5	20.5	179	8	US-10-861-934-14	Sequence 14, Appl
27	166.5	20.5	179	9	US-10-861-934-14	Sequence 14, Appl
28	166.5	20.5	278	8	US-10-861-934-16	Sequence 16, Appl
29	166.5	20.5	278	8	US-10-861-934-26	Sequence 26, Appl
30	166.5	20.5	278	9	US-10-861-934-16	Sequence 16, Appl
31	166.5	20.5	278	9	US-10-861-934-26	Sequence 26, Appl
32	162	19.9	239	11	US-11-136-341A-2	Sequence 2, Appli
33	161.5	19.8	137	8	US-10-861-934-10	Sequence 10, Appl
34	161.5	19.8	137	9	US-10-861-934-10	Sequence 10, Appl
35	161.5	19.8	138	8	US-10-861-934-12	Sequence 12, Appl
36	161.5	19.8	138	9	US-10-861-934-12	Sequence 12, Appl
37	161.5	19.8	179	8	US-10-861-934-22	Sequence 22, Appl
38	161.5	19.8	179	9	US-10-861-934-22	Sequence 22, Appl
39	161.5	19.8	279	8	US-10-861-934-24	Sequence 24, Appl
40	161.5	19.8	279	8	US-10-861-934-32	Sequence 32, Appl
41	161.5	19.8	279	9	US-10-861-934-24	Sequence 24, Appl
42	161.5	19.8	279	9	US-10-861-934-32	Sequence 32, Appl
43	161.5	19.8	279	11	US-11-032-797-5	Sequence 5, Appli
44	160	19.7	239	11	US-11-136-341A-3	Sequence 3, Appli
45	157.5	19.3	137	8	US-10-861-934-18	Sequence 18, Appl

ALIGNMENTS

RESULT 1
US-11-010-954-1
; Sequence 1, Application US/11010954
; Publication No. US20050249735A1
; GENERAL INFORMATION:
; APPLICANT: Le, Junming
; APPLICANT: Vilcek, Jan
; APPLICANT: Daddona, Peter
; APPLICANT: Ghrayeb, John
; APPLICANT: Knight, David
; APPLICANT: Siegel, Scott
; APPLICANT: Shealy, David
; TITLE OF INVENTION: Methods of Treating Ankylosing Spondylitis Using Anti-TNF Antibc
; TITLE OF INVENTION: and Peptides of Human Tumor Necrosis Factor
; FILE REFERENCE: 0975.1005-043
; CURRENT APPLICATION NUMBER: US/11/010,954
; CURRENT FILING DATE: 2004-12-13
; PRIOR APPLICATION NUMBER: US 10/637,759
; PRIOR FILING DATE: 2003-08-08
; PRIOR APPLICATION NUMBER: US 09/920,137
; PRIOR FILING DATE: 2001-08-01
; PRIOR APPLICATION NUMBER: US 09/927,703
; PRIOR FILING DATE: 2001-08-10
; PRIOR APPLICATION NUMBER: US 09/756,398
; PRIOR FILING DATE: 2001-01-08
; PRIOR APPLICATION NUMBER: US 60/236,826
; PRIOR FILING DATE: 2000-09-29
; PRIOR APPLICATION NUMBER: US 60/223,360
; PRIOR FILING DATE: 2000-08-07
; NUMBER OF SEQ ID NOS: 30
; SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 1
; LENGTH: 157
; TYPE: PRT
; ORGANISM: Homo sapiens
US-11-010-954-1

Query Match 95.7%; Score 779; DB 11; Length 157;
Best Local Similarity 96.2%; Pred. No. 1.3e-75;
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

Qy 1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
||||||||| |||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db 1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

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Qy          61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
               |||| |||||||||||||||||||||||| ||||||:|||||||||||||| ||||||||
Db          61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy         121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
               ||||||| |||||||||||||||||||||||||||||
Db         121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 2
US-11-053-750-1
; Sequence 1, Application US/11053750
; Publication No. US20050255104A1
; GENERAL INFORMATION:
;  APPLICANT: Le, Junming
;  APPLICANT:  Vilcek, Jan
;  APPLICANT:  Daddona, Peter
;  APPLICANT:  Ghrayeb, John
;  APPLICANT:  Knight, David
;  APPLICANT:  Siegel, Scott
;  APPLICANT:  Scallon, Bernard
;  TITLE OF INVENTION: Methods of Treating Psoriasis Using
;  TITLE OF INVENTION:  Anti-TNF Receptor Fusion Proteins
;  FILE REFERENCE: 0975.1005-045
;  CURRENT APPLICATION NUMBER: US/11/053,750
;  CURRENT FILING DATE:  2005-02-07
;  PRIOR APPLICATION NUMBER: U.S. 09/927,703
;  PRIOR FILING DATE: 2001-08-10
;  PRIOR APPLICATION NUMBER: U.S. 09/756,398
;  PRIOR FILING DATE: 2001-01-08
;  PRIOR APPLICATION NUMBER: U.S. 09/133,119
;  PRIOR FILING DATE: 1998-08-12
;  PRIOR APPLICATION NUMBER: U.S. 08/570,674
;  PRIOR FILING DATE: 1995-12-11
;  PRIOR APPLICATION NUMBER: U.S. 08/324,799
;  PRIOR FILING DATE: 1994-10-18
;  PRIOR APPLICATION NUMBER: U.S. 08/192,102
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: U.S. 08/192,861
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: U.S. 08/192,093
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: U.S. 09/010,406
;  PRIOR FILING DATE: 1993-01-29
;  PRIOR APPLICATION NUMBER: U.S. 08/013,413
;  PRIOR FILING DATE: 1993-02-02
;  NUMBER OF SEQ ID NOS: 30
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 1
;   LENGTH: 157
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-11-053-750-1

  Query Match             95.7%;  Score 779;  DB 11;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 1.3e-75;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy           1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
               |||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||
Db           1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy          61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
               |||| |||||||||||||||||||||||| ||||||:|||||||||||||| ||||||||
Db          61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy         121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
               ||||||| |||||||||||||||||||||||||||||
Db         121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 3
US-11-053-749-1
; Sequence 1, Application US/11053749
; Publication No. US20050260201A1
; GENERAL INFORMATION:
;  APPLICANT: Le, Junming
;  APPLICANT:  Vilcek, Jan
;  APPLICANT:  Daddona, Peter
;  APPLICANT:  Ghrayeb, John
;  APPLICANT:  Knight, David
;  APPLICANT:  Siegel, Scott
;  APPLICANT:  Scallon, Bernard
;  TITLE OF INVENTION: Methods of Treating Rheumatoid Arthritis
;  TITLE OF INVENTION:  Using Anti-TNF Receptor Fusion Proteins
;  FILE REFERENCE: 0975.1005-040
;  CURRENT APPLICATION NUMBER: US/11/053,749
;  CURRENT FILING DATE:  2005-02-07
;  PRIOR APPLICATION NUMBER: US/09/927,703
;  PRIOR FILING DATE: 2001-08-10
;  PRIOR APPLICATION NUMBER: U.S. 09/927,703
;  PRIOR FILING DATE: 2001-08-10
;  PRIOR APPLICATION NUMBER: U.S. 09/756,398
;  PRIOR FILING DATE: 2001-01-08
;  PRIOR APPLICATION NUMBER: U.S. 09/133,119
;  PRIOR FILING DATE: 1998-08-12
;  PRIOR APPLICATION NUMBER: U.S. 08/570,674
;  PRIOR FILING DATE: 1995-12-11
;  PRIOR APPLICATION NUMBER: U.S. 08/324,799
;  PRIOR FILING DATE: 1994-10-18
;  PRIOR APPLICATION NUMBER: U.S. 08/192,102
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: U.S. 08/192,861
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: U.S. 08/192,093
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: U.S.08/010,406
;  PRIOR FILING DATE: 1993-01-29
;  Remaining Prior Application data removed - See File Wrapper or PALM.
;  NUMBER OF SEQ ID NOS: 30
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 1
;   LENGTH: 157
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-11-053-749-1

  Query Match             95.7%;  Score 779;  DB 11;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 1.3e-75;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy           1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
               |||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||
Db           1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy          61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
               |||| |||||||||||||||||||||||| ||||||:|||||||||||||| ||||||||
Db          61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy         121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
               ||||||| |||||||||||||||||||||||||||||
Db         121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 4
US-11-108-001-12
; Sequence 12, Application US/11108001
; Publication No. US20050265962A1
; GENERAL INFORMATION:
;  APPLICANT: Desjarlais, John R.
;  APPLICANT:  Steed, Paul Michael
;  APPLICANT:  Zalevsky, Jonathan
;  APPLICANT:  Szymkowski, David Edmund
;  TITLE OF INVENTION: PROTEIN BASED TNF-ALPHA VARIANTS FOR THE TREATMENT OF TNF-ALPHA
;  TITLE OF INVENTION:  RELATED DISORDERS
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;  FILE REFERENCE: A-68990-7
;  CURRENT APPLICATION NUMBER: US/11/108,001
;  CURRENT FILING DATE:  2005-04-14
;  PRIOR APPLICATION NUMBER: US 10/963,994
;  PRIOR FILING DATE: 2004-10-12
;  PRIOR APPLICATION NUMBER: US 09/798,789
;  PRIOR FILING DATE: 2001-03-02
;  PRIOR APPLICATION NUMBER: US 09/945,150
;  PRIOR FILING DATE: 2001-08-31
;  PRIOR APPLICATION NUMBER: US 09/981,289
;  PRIOR FILING DATE: 2001-10-15
;  PRIOR APPLICATION NUMBER: US 10/262,630
;  PRIOR FILING DATE: 2002-09-30
;  PRIOR APPLICATION NUMBER: US 60/553,908
;  PRIOR FILING DATE: 2004-03-17
;  PRIOR APPLICATION NUMBER: US 60/510,430
;  PRIOR FILING DATE: 2003-10-10
;  PRIOR APPLICATION NUMBER: US 60/509,960
;  PRIOR FILING DATE: 2003-10-09
;  PRIOR APPLICATION NUMBER: US 60/528,275
;  PRIOR FILING DATE: 2003-12-08
;  PRIOR APPLICATION NUMBER: US 60/523,647
;  PRIOR FILING DATE: 2003-11-20
;  Remaining Prior Application data removed - See File Wrapper or PALM.
;  NUMBER OF SEQ ID NOS: 13
;  SOFTWARE: PatentIn version 3.3
; SEQ ID NO 12
;   LENGTH: 157
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-11-108-001-12

  Query Match             95.7%;  Score 779;  DB 11;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 1.3e-75;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              |||| |||||||||||||||||||||| |||||||:||||||||||||| ||||||||
Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||||||||||||||||||||||||
Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 5
US-11-170-753-1
; Sequence 1, Application US/11170753
; Publication No. US20060013816A1
; GENERAL INFORMATION:
;  APPLICANT: Le, Junming
;  APPLICANT:  Vilcek, Jan
;  APPLICANT:  Daddona, Peter
;  APPLICANT:  Ghrayeb, John
;  APPLICANT:  Knight, David
;  APPLICANT:  Siegel, Scott
;  TITLE OF INVENTION: Methods of Treating Psoriasis Using
;  TITLE OF INVENTION:  Human Anti-TNF Antibodies and Fragments
;  FILE REFERENCE: 0975.1005-050
;  CURRENT APPLICATION NUMBER: US/11/170,753
;  CURRENT FILING DATE:  2005-06-29
;  PRIOR APPLICATION NUMBER: U.S. 09/927,703
;  PRIOR FILING DATE: 2001-08-10
;  PRIOR APPLICATION NUMBER: U.S. 09/756,398
;  PRIOR FILING DATE: 2001-01-08
;  PRIOR APPLICATION NUMBER: U.S. 09/133,119
;  PRIOR FILING DATE: 1998-08-12
;  PRIOR APPLICATION NUMBER: U.S. 08/570,674
;  PRIOR FILING DATE: 1995-12-11
;  PRIOR APPLICATION NUMBER: U.S. 08/324,799
;  PRIOR FILING DATE: 1994-10-18
;  PRIOR APPLICATION NUMBER: U.S. 08/192,102
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: U.S. 08/192,861
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: U.S. 08/192,093
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: U.S.08/010,406
;  PRIOR FILING DATE: 1993-01-29
;  PRIOR APPLICATION NUMBER: U.S. 08/013,413
;  PRIOR FILING DATE: 1993-02-02
;  Remaining Prior Application data removed - See File Wrapper or PALM.
;  NUMBER OF SEQ ID NOS: 30
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 1
;   LENGTH: 157
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-11-170-753-1

  Query Match             95.7%;  Score 779;  DB 11;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 1.3e-75;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              |||| |||||||||||||||||||||| |||||||:||||||||||||| ||||||||
Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||||||||||||||||||||||||
Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 6
US-11-179-359-1
; Sequence 1, Application US/11179359
; Publication No. US20060018905A1
; GENERAL INFORMATION:
;  APPLICANT: Le, Junming
;  APPLICANT:  Vilcek, Jan
;  APPLICANT:  Daddona, Peter
;  APPLICANT:  Ghrayeb, John
;  APPLICANT:  Knight, David
;  APPLICANT:  Siegel, Scott
;  TITLE OF INVENTION: Methods for Treating Systemic Lupus Erythematosus
;  TITLE OF INVENTION:  Using Anti-TNF Antibodies and Fragments Thereof
;  FILE REFERENCE: 0975.1005-054
;  CURRENT APPLICATION NUMBER: US/11/179,359
;  CURRENT FILING DATE:  2005-07-12
;  PRIOR APPLICATION NUMBER: U.S. 09/927,703
;  PRIOR FILING DATE: 2001-08-10
;  PRIOR APPLICATION NUMBER: U.S. 09/756,398
;  PRIOR FILING DATE: 2001-01-08
;  PRIOR APPLICATION NUMBER: U.S. 09/133,119
;  PRIOR FILING DATE: 1998-08-12
;  PRIOR APPLICATION NUMBER: U.S. 08/570,674
;  PRIOR FILING DATE: 1995-12-11
;  PRIOR APPLICATION NUMBER: U.S. 08/324,799
;  PRIOR FILING DATE: 1994-10-18
;  PRIOR APPLICATION NUMBER: U.S. 08/192,102
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: U.S. 08/192,861
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: U.S. 08/192,093
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: U.S.08/010,406
;  PRIOR FILING DATE: 1993-01-29
;  PRIOR APPLICATION NUMBER: U.S. 08/013,413
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;  PRIOR FILING DATE: 1993-02-02
;  Remaining Prior Application data removed - See File Wrapper or PALM.
;  NUMBER OF SEQ ID NOS: 30
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 1
;   LENGTH: 157
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-11-179-359-1

  Query Match             95.7%;  Score 779;  DB 11;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 1.3e-75;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              |||| |||||||||||||||||||||| |||||||:||||||||||||| ||||||||
Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| |||||||||||||||||||||||||||||
Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 7
US-11-181-030-1
; Sequence 1, Application US/11181030
; Publication No. US20060018906A1
; GENERAL INFORMATION:
;  APPLICANT: Le, Junming
;  APPLICANT:  Vilcek, Jan
;  APPLICANT:  Daddona, Peter
;  APPLICANT:  Ghrayeb, John
;  APPLICANT:  Knight, David
;  APPLICANT:  Siegel, Scott
;  TITLE OF INVENTION: Methods for Treating Sarcoidosis Using
;  TITLE OF INVENTION:  Anti-TNF Antibodies and Fragments Thereof
;  FILE REFERENCE: 0975.1005-055
;  CURRENT APPLICATION NUMBER: US/11/181,030
;  CURRENT FILING DATE:  2005-07-13
;  PRIOR APPLICATION NUMBER: U.S. 09/927,703
;  PRIOR FILING DATE: 2001-08-10
;  PRIOR APPLICATION NUMBER: U.S. 09/756,398
;  PRIOR FILING DATE: 2001-01-08
;  PRIOR APPLICATION NUMBER: U.S. 09/133,119
;  PRIOR FILING DATE: 1998-08-12
;  PRIOR APPLICATION NUMBER: U.S. 08/570,674
;  PRIOR FILING DATE: 1995-12-11
;  PRIOR APPLICATION NUMBER: U.S. 08/324,799
;  PRIOR FILING DATE: 1994-10-18
;  PRIOR APPLICATION NUMBER: U.S. 08/192,102
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: U.S. 08/192,861
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: U.S. 08/192,093
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: U.S.08/010,406
;  PRIOR FILING DATE: 1993-01-29
;  PRIOR APPLICATION NUMBER: U.S. 08/013,413
;  PRIOR FILING DATE: 1993-02-02
;  Remaining Prior Application data removed - See File Wrapper or PALM.
;  NUMBER OF SEQ ID NOS: 30
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 1
;   LENGTH: 157
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-11-181-030-1

  Query Match             95.7%;  Score 779;  DB 11;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 1.3e-75;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              |||| |||||||||||||||||||||| |||||||:||||||||||||| ||||||||
Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| |||||||||||||||||||||||||||||
Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 8
US-11-182-033-1
; Sequence 1, Application US/11182033
; Publication No. US20060018907A1
; GENERAL INFORMATION:
;  APPLICANT: Le, Junming
;  APPLICANT:  Vilcek, Jan
;  APPLICANT:  Daddona, Peter
;  APPLICANT:  Ghrayeb, John
;  APPLICANT:  Knight, David
;  APPLICANT:  Siegel, Scott
;  APPLICANT:  Shealy, David
;  TITLE OF INVENTION: Anti-TNF Antibodies and Peptides of Human
;  TITLE OF INVENTION:  Tumor Necrosis Factor
;  FILE REFERENCE: 0975.1005-044
;  CURRENT APPLICATION NUMBER: US/11/182,033
;  CURRENT FILING DATE:  2005-07-14
;  PRIOR APPLICATION NUMBER: US 10/637,759
;  PRIOR FILING DATE: 2003-08-08
;  PRIOR APPLICATION NUMBER: US 09/920,137
;  PRIOR FILING DATE: 2001-08-01
;  PRIOR APPLICATION NUMBER: US 09/927,703
;  PRIOR FILING DATE: 2001-08-10
;  PRIOR APPLICATION NUMBER: US 09/756,398
;  PRIOR FILING DATE: 2001-01-08
;  PRIOR APPLICATION NUMBER: US 60/236,826
;  PRIOR FILING DATE: 2000-09-29
;  PRIOR APPLICATION NUMBER: US 60/223,360
;  PRIOR FILING DATE: 2000-08-07
;  NUMBER OF SEQ ID NOS: 30
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 1
;   LENGTH: 157
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-11-182-033-1

  Query Match             95.7%;  Score 779;  DB 11;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 1.3e-75;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              |||| |||||||||||||||||||||| |||||||:||||||||||||| ||||||||
Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| |||||||||||||||||||||||||||||
Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 9
US-11-195-589-1
; Sequence 1, Application US/11195589
```

; Publication No. US20060024310A1
; GENERAL INFORMATION:
; APPLICANT: Le, Junming
; APPLICANT: Vilcek, Jan
; APPLICANT: Daddona, Peter
; APPLICANT: Ghrayeb, John
; APPLICANT: Knight, David
; APPLICANT: Siegel, Scott
; TITLE OF INVENTION: Methods of Treating TNFa-Mediated
; TITLE OF INVENTION: Tissue Injury Using Anti-TNF Antibodies and Peptides
; FILE REFERENCE: 0975.1005-042
; CURRENT APPLICATION NUMBER: US/11/195,589
; CURRENT FILING DATE: 2005-08-02
; PRIOR APPLICATION NUMBER: US 09/927,703
; PRIOR FILING DATE: 2001-08-10
; PRIOR APPLICATION NUMBER: US 09/756,398
; PRIOR FILING DATE: 2001-01-08
; PRIOR APPLICATION NUMBER: US 09/133,119
; PRIOR FILING DATE: 1998-08-12
; PRIOR APPLICATION NUMBER: US 08/570,674
; PRIOR FILING DATE: 1995-12-11
; PRIOR APPLICATION NUMBER: US 08/324,799
; PRIOR FILING DATE: 1994-10-18
; PRIOR APPLICATION NUMBER: US 08/192,102
; PRIOR FILING DATE: 1994-02-04
; PRIOR APPLICATION NUMBER: US 08/192,861
; PRIOR FILING DATE: 1994-02-04
; PRIOR APPLICATION NUMBER: US 08/192,093
; PRIOR FILING DATE: 1994-02-04
; PRIOR APPLICATION NUMBER: US 08/010,406
; PRIOR FILING DATE: 1993-01-29
; PRIOR APPLICATION NUMBER: US 08/013,413
; PRIOR FILING DATE: 02-02-1993
; Remaining Prior Application data removed - See File Wrapper or PALM.
; NUMBER OF SEQ ID NOS: 30
; SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 1
; LENGTH: 157
; TYPE: PRT
; ORGANISM: Homo sapiens
US-11-195-589-1

Query Match 95.7%; Score 779; DB 11; Length 157;
Best Local Similarity 96.2%; Pred. No. 1.3e-75;
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

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Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              |||| |||||||||||||||||||||| |||||||:||||||||||||| ||||||||
Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| |||||||||||||||||||||||||||||
Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
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RESULT 10
US-11-082-544-4
; Sequence 4, Application US/11082544
; Publication No. US20050249706A1
; GENERAL INFORMATION:
; APPLICANT: Bermudes, G.
; APPLICANT: King, I.
; APPLICANT: Clairmont, C.
; APPLICANT: Lin, S.
; APPLICANT: Belcourt, M.
; TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR
; TITLE OF INVENTION: TUMOR-TARGETED DELIVERY OF EFFECTOR MOLECULES
; FILE REFERENCE: 8002-059
; CURRENT APPLICATION NUMBER: US/11/082,544
; CURRENT FILING DATE: 2005-03-17
; PRIOR APPLICATION NUMBER: US/09/645,415
; PRIOR FILING DATE: 2000-08-24
; PRIOR APPLICATION NUMBER: 60/157,581
; PRIOR FILING DATE: 1999-10-04
; PRIOR APPLICATION NUMBER: 60/157,637
; PRIOR FILING DATE: 1999-10-04
; NUMBER OF SEQ ID NOS: 61
; SOFTWARE: FastSEQ for Windows Version 3.0
; SEQ ID NO 4
; LENGTH: 158
; TYPE: PRT
; ORGANISM: Homo sapiens
US-11-082-544-4

Query Match 95.7%; Score 779; DB 11; Length 158;
Best Local Similarity 96.2%; Pred. No. 1.3e-75;
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

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Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||
Db          2 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 61

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              |||| |||||||||||||||||||||| |||||||:||||||||||||| ||||||||
Db         62 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 121

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| |||||||||||||||||||||||||||||
Db        122 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 158
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RESULT 11
US-11-108-001-2
; Sequence 2, Application US/11108001
; Publication No. US20050265962A1
; GENERAL INFORMATION:
; APPLICANT: Desjarlais, John R.
; APPLICANT: Steed, Paul Michael
; APPLICANT: Zalevsky, Jonathan
; APPLICANT: Szymkowski, David Edmund
; TITLE OF INVENTION: PROTEIN BASED TNF-ALPHA VARIANTS FOR THE TREATMENT OF TNF-ALPHA
; TITLE OF INVENTION: RELATED DISORDERS
; FILE REFERENCE: A-68990-7
; CURRENT APPLICATION NUMBER: US/11/108,001
; CURRENT FILING DATE: 2005-04-14
; PRIOR APPLICATION NUMBER: US 10/963,994
; PRIOR FILING DATE: 2004-10-12
; PRIOR APPLICATION NUMBER: US 09/798,789
; PRIOR FILING DATE: 2001-03-02
; PRIOR APPLICATION NUMBER: US 09/945,150
; PRIOR FILING DATE: 2001-08-31
; PRIOR APPLICATION NUMBER: US 09/981,289
; PRIOR FILING DATE: 2001-10-15
; PRIOR APPLICATION NUMBER: US 10/262,630
; PRIOR FILING DATE: 2002-09-30
; PRIOR APPLICATION NUMBER: US 60/553,908
; PRIOR FILING DATE: 2004-03-17
; PRIOR APPLICATION NUMBER: US 60/510,430
; PRIOR FILING DATE: 2003-10-10
; PRIOR APPLICATION NUMBER: US 60/509,960
; PRIOR FILING DATE: 2003-10-09
; PRIOR APPLICATION NUMBER: US 60/528,275
; PRIOR FILING DATE: 2003-12-08
; PRIOR APPLICATION NUMBER: US 60/523,647
; PRIOR FILING DATE: 2003-11-20
; Remaining Prior Application data removed - See File Wrapper or PALM.
; NUMBER OF SEQ ID NOS: 13
; SOFTWARE: PatentIn version 3.3
; SEQ ID NO 2
; LENGTH: 164
; TYPE: PRT
; ORGANISM: Homo sapiens

```
US-11-108-001-2

  Query Match             95.7%;  Score 779;  DB 11;  Length 164;
  Best Local Similarity   96.2%;  Pred. No. 1.4e-75;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||
Db          8 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 67

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              |||| |||||||||||||||||||||||| |||||||:||||||||||||| ||||||||
Db         68 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 127

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||||||||||||||||||||||||
Db        128 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 164


RESULT 12
US-10-490-953-35
; Sequence 35, Application US/10490953
; Publication No. US20060088908A1
; GENERAL INFORMATION:
;  APPLICANT: SKERRA, ARNE
;  APPLICANT:  SCHLEHUBER, STEFFEN
;  TITLE OF INVENTION: MUTEINS OF HUMAN NEUTROPHIL GELATINASE-ASSOCIATED LIPOCALIN AND
;  TITLE OF INVENTION:  RELATED PROTEINS
;  FILE REFERENCE: 029029-0104
;  CURRENT APPLICATION NUMBER: US/10/490,953
;  CURRENT FILING DATE:  2004-03-29
;  PRIOR APPLICATION NUMBER: PCT/EP02/10490
;  PRIOR FILING DATE: 2002-09-18
;  PRIOR APPLICATION NUMBER: PCT/EP02/04223
;  PRIOR FILING DATE: 2002-04-16
;  PRIOR APPLICATION NUMBER: PCT/EP01/11213
;  PRIOR FILING DATE: 2001-09-27
;  NUMBER OF SEQ ID NOS: 39
;  SOFTWARE: PatentIn version 3.2
; SEQ ID NO 35
;   LENGTH: 170
;   TYPE: PRT
;   ORGANISM: Artificial Sequence
;   FEATURE:
;   OTHER INFORMATION: Description of Artificial Sequence: Synthetic
;   OTHER INFORMATION: amino acid sequence
;   FEATURE:
;   NAME/KEY: CHAIN
;   LOCATION: (1)..(170)
;   OTHER INFORMATION: fusion protein of tumor necrosis factor alpha and
;   OTHER INFORMATION: affinity tag
;   FEATURE:
;   NAME/KEY: MISC_FEATURE
;   LOCATION: (1)..(13)
;   OTHER INFORMATION: Affinity tag Arg-Gly-Ser-His(6)-Gly(3)
;   FEATURE:
;   NAME/KEY: MISC_FEATURE
;   LOCATION: (14)..(170)
;   OTHER INFORMATION: mature tumor necrosis factor alpha
US-10-490-953-35

  Query Match             95.7%;  Score 779;  DB 8;  Length 170;
  Best Local Similarity   96.2%;  Pred. No. 1.5e-75;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||
Db         14 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 73

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              |||| |||||||||||||||||||||||| |||||||:||||||||||||| ||||||||
Db         74 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 133

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||||||||||||||||||||||||
Db        134 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 170


RESULT 13
US-11-082-544-8
; Sequence 8, Application US/11082544
; Publication No. US20050249706A1
; GENERAL INFORMATION:
;  APPLICANT: Bermudes, G.
;  APPLICANT:  King, I.
;  APPLICANT:  Clairmont, C.
;  APPLICANT:  Lin, S.
;  APPLICANT:  Belcourt, M.
;  TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR
;  TITLE OF INVENTION:  TUMOR-TARGETED DELIVERY OF EFFECTOR MOLECULES
;  FILE REFERENCE: 8002-059
;  CURRENT APPLICATION NUMBER: US/11/082,544
;  CURRENT FILING DATE:  2005-03-17
;  PRIOR APPLICATION NUMBER: US/09/645,415
;  PRIOR FILING DATE: 2000-08-24
;  PRIOR APPLICATION NUMBER: 60/157,581
;  PRIOR FILING DATE: 1999-10-04
;  PRIOR APPLICATION NUMBER: 60/157,637
;  PRIOR FILING DATE: 1999-10-04
;  NUMBER OF SEQ ID NOS: 61
;  SOFTWARE: FastSEQ for Windows Version 3.0
; SEQ ID NO 8
;   LENGTH: 180
;   TYPE: PRT
;   ORGANISM: Artificial Sequence
;   FEATURE:
;   OTHER INFORMATION: Fusion construct
US-11-082-544-8

  Query Match             95.7%;  Score 779;  DB 11;  Length 180;
  Best Local Similarity   96.2%;  Pred. No. 1.6e-75;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||
Db         24 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 83

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              |||| |||||||||||||||||||||||| |||||||:||||||||||||| ||||||||
Db         84 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 143

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||||||||||||||||||||||||
Db        144 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 180


RESULT 14
US-10-523-328-1
; Sequence 1, Application US/10523328
; Publication No. US20060078944A1
; GENERAL INFORMATION:
;  APPLICANT: Kuai, Jun
;  APPLICANT:  Lin, Lih-Ling
;  APPLICANT:  Wooters, Joseph L.
;  APPLICANT:  Nickbarg, Elliot
;  TITLE OF INVENTION: METHODS AND REAGENTS RELATING TO INFLAMMATION AND APOPTOSIS
;  FILE REFERENCE: WYTH-P01-001
;  CURRENT APPLICATION NUMBER: US/10/523,328
;  CURRENT FILING DATE:  2005-02-01
;  PRIOR APPLICATION NUMBER: 60/400,410
;  PRIOR FILING DATE: 2002-08-01
;  NUMBER OF SEQ ID NOS: 20
;  SOFTWARE: PatentIn version 3.2
; SEQ ID NO 1
;   LENGTH: 233
;   TYPE: PRT
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; ORGANISM: Homo sapiens
US-10-523-328-1

Query Match 95.7%; Score 779; DB 9; Length 233;
Best Local Similarity 96.2%; Pred. No. 2.2e-75;
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

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Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||
Db         77 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 136

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              |||| |||||||||||||||||||||||| |||||||:||||||||||||| ||||||||
Db        137 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 196

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| |||||||||||||||||||||||||||||
Db        197 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 233
```

RESULT 15
US-11-246-387-8
; Sequence 8, Application US/11246387
; Publication No. US20060078994A1
; GENERAL INFORMATION:
; APPLICANT: Argos Therapeutics, Inc.
; APPLICANT: Kirin Beer Kabushiki Kaisha
; APPLICANT: Healey, Don
; APPLICANT: Tcherepanova, Irina
; APPLICANT: Adams, Melissa
; APPLICANT: Hinohara, Atsushi
; TITLE OF INVENTION: MATURE DENDRITIC CELL COMPOSITIONS AND METHODS FOR CULTURING SAME
; FILE REFERENCE: MER030
; CURRENT APPLICATION NUMBER: US/11/246,387
; CURRENT FILING DATE: 2005-10-07
; PRIOR APPLICATION NUMBER: US 60/522,512
; PRIOR FILING DATE: 2004-10-07
; NUMBER OF SEQ ID NOS: 26
; SOFTWARE: PatentIn version 3.3
; SEQ ID NO 8
; LENGTH: 233
; TYPE: PRT
; ORGANISM: Homo sapiens
US-11-246-387-8

Query Match 95.7%; Score 779; DB 11; Length 233;
Best Local Similarity 96.2%; Pred. No. 2.2e-75;
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

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Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||
Db         77 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 136

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              |||| |||||||||||||||||||||||| |||||||:||||||||||||| ||||||||
Db        137 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 196

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| |||||||||||||||||||||||||||||
Db        197 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 233
```

Search completed: May 5, 2006, 11:28:33
Job time : 10.75 secs

GenCore version 5.1.7

OM protein - protein search, using sw model

Run on: May 5, 2006, 11:21:07 ; Search time 74.25 Seconds
(without alignments)
929.057 Million cell updates/sec

Title: US-10-668-178-13
Perfect score: 814
Sequence: 1 VRSSSRTPSDMPVAHVVANP.....RPDYLDFAESGQVYFGIIAL 157

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 2443163 seqs, 439378781 residues

Total number of hits satisfying chosen parameters: 2443163

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : A_Geneseq_21:*
1: geneseqp1980s:*
2: geneseqp1990s:*
3: geneseqp2000s:*
4: geneseqp2001s:*
5: geneseqp2002s:*
6: geneseqp2003as:*
7: geneseqp2003bs:*
8: geneseqp2004s:*
9: geneseqp2005s:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	814	100.0	157	8	ADH10160	Adh10160 Human tum
2	807	99.1	157	9	AEB45433	Aeb45433 TNF-R1 sp
3	806	99.0	157	9	AEB45432	Aeb45432 TNF-R1 sp
4	805	98.9	157	9	AEB45434	Aeb45434 TNF-R1 sp
5	803	98.6	157	9	AEB45430	Aeb45430 TNF-R1 sp
6	800	98.3	157	9	AEB45453	Aeb45453 TNF-R2 sp
7	799	98.2	157	9	AEB45431	Aeb45431 TNF-R1 sp
8	795	97.7	157	9	AEB45454	Aeb45454 TNF-R2 sp
9	793	97.4	157	9	AEB45469	Aeb45469 TNF-R2 sp
10	792	97.3	157	9	AEB45438	Aeb45438 TNF-R1 sp
11	792	97.3	157	9	AEB45436	Aeb45436 TNF-R1 sp
12	792	97.3	157	9	AEB45461	Aeb45461 TNF-R2 sp
13	791	97.2	157	9	AEB45460	Aeb45460 TNF-R2 sp
14	791	97.2	157	9	AEB45464	Aeb45464 TNF-R2 sp
15	790	97.1	157	9	AEB45472	Aeb45472 TNF-R2 sp
16	790	97.1	157	9	AEB45471	Aeb45471 TNF-R2 sp
17	790	97.1	157	9	AEB45455	Aeb45455 TNF-R2 sp
18	790	97.1	157	9	AEB45466	Aeb45466 TNF-R2 sp
19	790	97.1	157	9	AEB45474	Aeb45474 TNF-R2 sp
20	790	97.1	157	9	AEB45457	Aeb45457 TNF-R2 sp
21	790	97.1	157	9	AEB45475	Aeb45475 TNF-R2 sp
22	789	96.9	157	9	AEB45458	Aeb45458 TNF-R2 sp
23	789	96.9	157	9	AEB45473	Aeb45473 TNF-R2 sp
24	789	96.9	157	9	AEB45467	Aeb45467 TNF-R2 sp
25	789	96.9	157	9	AEB45468	Aeb45468 TNF-R2 sp
26	788	96.8	157	9	AEB45437	Aeb45437 TNF-R1 sp
27	788	96.8	157	9	AEB45462	Aeb45462 TNF-R2 sp
28	788	96.8	157	9	AEB45470	Aeb45470 TNF-R2 sp
29	787	96.7	157	9	AEB45456	Aeb45456 TNF-R2 sp
30	787	96.7	157	9	AEB45459	Aeb45459 TNF-R2 sp
31	787	96.7	157	9	AEB45465	Aeb45465 TNF-R2 sp
32	787	96.7	157	9	AEB45463	Aeb45463 TNF-R2 sp
33	785	96.4	157	9	AEB45429	Aeb45429 TNF-R1 sp
34	784	96.3	157	9	AEB45428	Aeb45428 TNF-R1 sp
35	784	96.3	157	9	AEB45425	Aeb45425 TNF-R1 sp
36	783	96.2	157	9	AEB45421	Aeb45421 Human TNF
37	782	96.1	157	9	AEB45427	Aeb45427 TNF-R1 sp
38	782	96.1	157	9	AEB45423	Aeb45423 Human TNF
39	782	96.1	157	9	AEB45435	Aeb45435 TNF-R1 sp
40	780	95.8	157	2	AAR62465	Aar62465 Tumour ne
41	779	95.7	157	1	AAP60524	Aap60524 Sequence
42	779	95.7	157	1	AAP70095	Aap70095 Tumour ne
43	779	95.7	157	1	AAP70144	Aap70144 Amino aci
44	779	95.7	157	2	AAR14270	Aar14270 Human TNF
45	779	95.7	157	2	AAR14112	Aar14112 Neutrophi

ALIGNMENTS

RESULT 1
ADH10160
ID ADH10160 standard; protein; 157 AA.
XX
AC ADH10160;
XX
DT 11-MAR-2004 (first entry)
XX
DE Human tumour necrosis factor variant protein.
XX
KW TNF; tumour necrosis factor; polyethylene glycol; cytostatic; cancer;
KW human; variant.
XX
OS Homo sapiens.
XX
PN EP1354893-A2.
XX
PD 22-OCT-2003.
XX
PF 30-JAN-2003; 2003EP-00250587.
XX
PR 25-MAR-2002; 2002JP-00083509.
PR 26-JUN-2002; 2002JP-00185387.
XX
PA (HAYB) HAYASHIBARA SEIBUTSU KAGAKU.
PA (MAYU/) MAYUMI T.
PA (TSUT/) TSUTSUMI Y.
PA (NAKA/) NAKAGAWA S.
XX
PI Mayumi T, Tsutsumi Y, Nakagawa S, Ikegami H;
XX
DR WPI; 2004-063952/07.
DR N-PSDB; ADH10169.
XX
PT A physiologically active complex which comprises a protein part with
PT tumor necrosis factor activity and a high molecular part has higher
PT stability and retention in living bodies and is useful to treat disease,
PT particularly cancer.
XX
PS Example 1; SEQ ID NO 3; 18pp; English.
XX
CC The present sequence represents a physiologically active complex which
CC comprises a proteinaceous part with tumour necrosis factor (TNF) activity
CC and a high molecular part bound artificially to the N-terminus of the
CC proteinaceous part. The proteinaceous part comprises the sequence
CC selected from ADH10159 and the molecular part has a molecular weight of
CC 500-5000 Da and is a homopolymer of polyethylene glycol or a copolymer of

CC ethylene glycol and its derivatives. The invention is used to treat
CC susceptive disease, particularly cancer. The complex has a higher
CC stability and longer retention time in living bodies than intact tumour
CC necrosis factor. The present sequence represents a human TNF variant
CC protein.
XX
SQ Sequence 157 AA;

Query Match 100.0%; Score 814; DB 8; Length 157;
Best Local Similarity 100.0%; Pred. No. 9.6e-76;
Matches 157; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
Db 1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy 61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
Db 61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120

Qy 121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
Db 121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157

RESULT 2
AEB45433
ID AEB45433 standard; protein; 157 AA.
XX
AC AEB45433;
XX
DT 22-SEP-2005 (first entry)
XX
DE TNF-R1 specific human TNF-alpha mutant protein, SEQ ID No:17.
XX
KW tumor necrosis factor-alpha; TNF-alpha; TNF inhibitor; inflammation;
KW autoimmune disease; tumor; transplant rejection; cardiovascular disease;
KW acquired immune deficiency syndrome; severe acute respiratory syndrome;
KW plasmodium infection; meningitis; hepatitis; Alzheimers disease;
KW antiinflammatory; cytostatic; antirheumatic; antiarthritic; antiallergic;
KW antipsoriatic; anti-HIV; antiarteriosclerotic; immunosuppressive;
KW vasotropic; cerebroprotective; dermatological; immunomodulator;
KW antimalarial; antibacterial; hepatotropic; neuroprotective; nootropic;
KW mutein.
XX
OS Homo sapiens.
OS Synthetic.
XX
PN WO2005066206-A1.
XX
PD 21-JUL-2005.
XX
PF 05-JAN-2005; 2005WO-JP000032.
XX
PR 06-JAN-2004; 2004JP-00001427.
XX
PA (HAYB) HAYASHIBARA SEIBUTSU KAGAKU.
PA (MAYU/) MAYUMI T.
PA (TSUT/) TSUTSUMI Y.
PA (NAKA/) NAKAGAWA S.
XX
PI Mayumi T, Tsutsumi Y, Nakagawa S, Ohta T;
XX
DR WPI; 2005-506850/51.
DR N-PSDB; AEB45447.
XX
PT Novel tumor necrosis factor TNF mutant protein, useful for treating
PT and/or preventing diseases such as inflammation, and other diseases
PT caused by overexpression of TNF, such as autoimmune diseases, tumor,
PT rheumatoid arthritis, allergy.
XX
PS Claim 4; SEQ ID NO 17; 34pp; Japanese.
XX

CC The invention relates to tumor necrosis factor (TNF) mutant proteins,
CC particularly tumor necrosis factor mutant proteins specific for TNF-R1 or
CC TNF-R2 (SEQ ID Nos 19-22 and 37-59 respectively). The invention discloses
CC a TNF mutant protein comprising an amino acid sequence derived from the
CC human TNF-alpha protein (given as SEQ ID No: 1) by the substitution of
CC one or more amino acid residues at 29, 31, 32, 145, 146 and 147 from the
CC N-terminus, and amino acid residues at positions 84-89 by other amino
CC acid residue(s). Also described are: (1) a TNF inhibitor comprising a TNF
CC mutant protein; and (2) a TNF formulation comprising a TNF mutant
CC protein. The TNF mutant proteins are useful for treating and/or
CC preventing diseases such as inflammation, and other diseases caused by
CC overexpression of TNF, such as autoimmune diseases, tumors (e.g. colon
CC cancer, rectal cancer, uterine cancer, brain tumor, leukemia, lymphoma),
CC Crohn's disease, rheumatoid arthritis, allergies, psoriasis, cachexia,
CC transplant rejection, stroke, ischemia, restenosis, AIDS, severe acute
CC respiratory syndrome (SARS), atherosclerosis, Behcet's disease, systemic
CC lupus erythematosus, malaria, meningitis, hepatitis, Alzheimer's disease,
CC etc. The TNF mutant proteins are highly stable in vivo. This sequence
CC represents a human TNF-alpha mutant protein specific for TNF-R1. Note:
CC The sequence data for this patent did not form part of the printed
CC specification, but was obtained in electronic format directly from WIPO
CC at ftp.wipo.int/pub/published_pct_sequences.
XX
SQ Sequence 157 AA;

Query Match 99.1%; Score 807; DB 9; Length 157;
Best Local Similarity 98.7%; Pred. No. 5.1e-75;
Matches 155; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

Qy 1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
Db 1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy 61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
Db 61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120

Qy 121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
Db 121 GGVFQLEPGDRLSAEINRPDYLDFADDGQVYFGIIAL 157

RESULT 3
AEB45432
ID AEB45432 standard; protein; 157 AA.
XX
AC AEB45432;
XX
DT 22-SEP-2005 (first entry)
XX
DE TNF-R1 specific human TNF-alpha mutant protein, SEQ ID No:16.
XX
KW tumor necrosis factor-alpha; TNF-alpha; TNF inhibitor; inflammation;
KW autoimmune disease; tumor; transplant rejection; cardiovascular disease;
KW acquired immune deficiency syndrome; severe acute respiratory syndrome;
KW plasmodium infection; meningitis; hepatitis; Alzheimers disease;
KW antiinflammatory; cytostatic; antirheumatic; antiarthritic; antiallergic;
KW antipsoriatic; anti-HIV; antiarteriosclerotic; immunosuppressive;
KW vasotropic; cerebroprotective; dermatological; immunomodulator;
KW antimalarial; antibacterial; hepatotropic; neuroprotective; nootropic;
KW mutein.
XX
OS Homo sapiens.
OS Synthetic.
XX
PN WO2005066206-A1.
XX
PD 21-JUL-2005.
XX
PF 05-JAN-2005; 2005WO-JP000032.
XX
PR 06-JAN-2004; 2004JP-00001427.
XX

PA (HAYB) HAYASHIBARA SEIBUTSU KAGAKU.
PA (MAYU/) MAYUMI T.
PA (TSUT/) TSUTSUMI Y.
PA (NAKA/) NAKAGAWA S.
XX
PI Mayumi T, Tsutsumi Y, Nakagawa S, Ohta T;
XX
DR WPI; 2005-506850/51.
DR N-PSDB; AEB45446.
XX
PT Novel tumor necrosis factor TNF mutant protein, useful for treating
PT and/or preventing diseases such as inflammation, and other diseases
PT caused by overexpression of TNF, such as autoimmune diseases, tumor,
PT rheumatoid arthritis, allergy.
XX
PS Claim 4; SEQ ID NO 16; 34pp; Japanese.
XX
CC The invention relates to tumor necrosis factor (TNF) mutant proteins,
CC particularly tumor necrosis factor mutant proteins specific for TNF-R1 or
CC TNF-R2 (SEQ ID Nos 19-22 and 37-59 respectively). The invention discloses
CC a TNF mutant protein comprising an amino acid sequence derived from the
CC human TNF-alpha protein (given as SEQ ID No: 1) by the substitution of
CC one or more amino acid residues at 29, 31, 32, 145, 146 and 147 from the
CC N-terminus, and amino acid residues at positions 84-89 by other amino
CC acid residue(s). Also described are: (1) a TNF inhibitor comprising a TNF
CC mutant protein; and (2) a TNF formulation comprising a TNF mutant
CC protein. The TNF mutant proteins are useful for treating and/or
CC preventing diseases such as inflammation, and other diseases caused by
CC overexpression of TNF, such as autoimmune diseases, tumors (e.g. colon
CC cancer, rectal cancer, uterine cancer, brain tumor, leukemia, lymphoma),
CC Crohn's disease, rheumatoid arthritis, allergies, psoriasis, cachexia,
CC transplant rejection, stroke, ischemia, restenosis, AIDS, severe acute
CC respiratory syndrome (SARS), atherosclerosis, Behcet's disease, systemic
CC lupus erythematosus, malaria, meningitis, hepatitis, Alzheimer's disease,
CC etc. The TNF mutant proteins are highly stable in vivo. This sequence
CC represents a human TNF-alpha mutant protein specific for TNF-R1. Note:
CC The sequence data for this patent did not form part of the printed
CC specification, but was obtained in electronic format directly from WIPO
CC at ftp.wipo.int/pub/published_pct_sequences.
XX
SQ Sequence 157 AA;

Query Match 99.0%; Score 806; DB 9; Length 157;
Best Local Similarity 98.7%; Pred. No. 6.4e-75;
Matches 155; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

Qy 1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
Db 1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy 61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
Db 61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120

Qy 121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
Db 121 GGVFQLEPGDRLSAEINRPDYLDFRETGQVYFGIIAL 157

RESULT 4
AEB45434
ID AEB45434 standard; protein; 157 AA.
XX
AC AEB45434;
XX
DT 22-SEP-2005 (first entry)
XX
DE TNF-R1 specific human TNF-alpha mutant protein, SEQ ID No:18.
XX
KW tumor necrosis factor-alpha; TNF-alpha; TNF inhibitor; inflammation;
KW autoimmune disease; tumor; transplant rejection; cardiovascular disease;
KW acquired immune deficiency syndrome; severe acute respiratory syndrome;
KW plasmodium infection; meningitis; hepatitis; Alzheimers disease;
KW antiinflammatory; cytostatic; antirheumatic; antiarthritic; antiallergic;
KW antipsoriatic; anti-HIV; antiarteriosclerotic; immunosuppressive;
KW vasotropic; cerebroprotective; dermatological; immunomodulator;
KW antimalarial; antibacterial; hepatotropic; neuroprotective; nootropic;
KW mutein.
XX
OS Homo sapiens.
OS Synthetic.
XX
PN WO2005066206-A1.
XX
PD 21-JUL-2005.
XX
PF 05-JAN-2005; 2005WO-JP000032.
XX
PR 06-JAN-2004; 2004JP-00001427.
XX
PA (HAYB) HAYASHIBARA SEIBUTSU KAGAKU.
PA (MAYU/) MAYUMI T.
PA (TSUT/) TSUTSUMI Y.
PA (NAKA/) NAKAGAWA S.
XX
PI Mayumi T, Tsutsumi Y, Nakagawa S, Ohta T;
XX
DR WPI; 2005-506850/51.
DR N-PSDB; AEB45448.
XX
PT Novel tumor necrosis factor TNF mutant protein, useful for treating
PT and/or preventing diseases such as inflammation, and other diseases
PT caused by overexpression of TNF, such as autoimmune diseases, tumor,
PT rheumatoid arthritis, allergy.
XX
PS Claim 4; SEQ ID NO 18; 34pp; Japanese.
XX
CC The invention relates to tumor necrosis factor (TNF) mutant proteins,
CC particularly tumor necrosis factor mutant proteins specific for TNF-R1 or
CC TNF-R2 (SEQ ID Nos 19-22 and 37-59 respectively). The invention discloses
CC a TNF mutant protein comprising an amino acid sequence derived from the
CC human TNF-alpha protein (given as SEQ ID No: 1) by the substitution of
CC one or more amino acid residues at 29, 31, 32, 145, 146 and 147 from the
CC N-terminus, and amino acid residues at positions 84-89 by other amino
CC acid residue(s). Also described are: (1) a TNF inhibitor comprising a TNF
CC mutant protein; and (2) a TNF formulation comprising a TNF mutant
CC protein. The TNF mutant proteins are useful for treating and/or
CC preventing diseases such as inflammation, and other diseases caused by
CC overexpression of TNF, such as autoimmune diseases, tumors (e.g. colon
CC cancer, rectal cancer, uterine cancer, brain tumor, leukemia, lymphoma),
CC Crohn's disease, rheumatoid arthritis, allergies, psoriasis, cachexia,
CC transplant rejection, stroke, ischemia, restenosis, AIDS, severe acute
CC respiratory syndrome (SARS), atherosclerosis, Behcet's disease, systemic
CC lupus erythematosus, malaria, meningitis, hepatitis, Alzheimer's disease,
CC etc. The TNF mutant proteins are highly stable in vivo. This sequence
CC represents a human TNF-alpha mutant protein specific for TNF-R1. Note:
CC The sequence data for this patent did not form part of the printed
CC specification, but was obtained in electronic format directly from WIPO
CC at ftp.wipo.int/pub/published_pct_sequences.
XX
SQ Sequence 157 AA;

Query Match 98.9%; Score 805; DB 9; Length 157;
Best Local Similarity 98.7%; Pred. No. 8.2e-75;
Matches 155; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

Qy 1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
Db 1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy 61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
Db 61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120

Qy 121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157

```
Db        121 GGVFQLEPGDRLSAEINRPDYLDFANDGQVYFGIIAL 157


RESULT 5
AEB45430
ID   AEB45430 standard; protein; 157 AA.
XX
AC   AEB45430;
XX
DT   22-SEP-2005  (first entry)
XX
DE   TNF-R1 specific human TNF-alpha mutant protein, SEQ ID No:14.
XX
KW   tumor necrosis factor-alpha; TNF-alpha; TNF inhibitor; inflammation;
KW   autoimmune disease; tumor; transplant rejection; cardiovascular disease;
KW   acquired immune deficiency syndrome; severe acute respiratory syndrome;
KW   plasmodium infection; meningitis; hepatitis; Alzheimers disease;
KW   antiinflammatory; cytostatic; antirheumatic; antiarthritic; antiallergic;
KW   antipsoriatic; anti-HIV; antiarteriosclerotic; immunosuppressive;
KW   vasotropic; cerebroprotective; dermatological; immunomodulator;
KW   antimalarial; antibacterial; hepatotropic; neuroprotective; nootropic;
KW   mutein.
XX
OS   Homo sapiens.
OS   Synthetic.
XX
PN   WO2005066206-A1.
XX
PD   21-JUL-2005.
XX
PF   05-JAN-2005; 2005WO-JP000032.
XX
PR   06-JAN-2004; 2004JP-00001427.
XX
PA   (HAYB ) HAYASHIBARA SEIBUTSU KAGAKU.
PA   (MAYU/) MAYUMI T.
PA   (TSUT/) TSUTSUMI Y.
PA   (NAKA/) NAKAGAWA S.
XX
PI   Mayumi T,  Tsutsumi Y,  Nakagawa S,  Ohta T;
XX
DR   WPI; 2005-506850/51.
DR   N-PSDB; AEB45444.
XX
PT   Novel tumor necrosis factor TNF mutant protein, useful for treating
PT   and/or preventing diseases such as inflammation, and other diseases
PT   caused by overexpression of TNF, such as autoimmune diseases, tumor,
PT   rheumatoid arthritis, allergy.
XX
PS   Claim 4; SEQ ID NO 14; 34pp; Japanese.
XX
CC   The invention relates to tumor necrosis factor (TNF) mutant proteins,
CC   particularly tumor necrosis factor mutant proteins specific for TNF-R1 or
CC   TNF-R2 (SEQ ID Nos 19-22 and 37-59 respectively). The invention discloses
CC   a TNF mutant protein comprising an amino acid sequence derived from the
CC   human TNF-alpha protein (given as SEQ ID No: 1) by the substitution of
CC   one or more amino acid residues at 29, 31, 32, 145, 146 and 147 from the
CC   N-terminus, and amino acid residues at positions 84-89 by other amino
CC   acid residue(s). Also described are: (1) a TNF inhibitor comprising a TNF
CC   mutant protein; and (2) a TNF formulation comprising a TNF mutant
CC   protein. The TNF mutant proteins are useful for treating and/or
CC   preventing diseases such as inflammation, and other diseases caused by
CC   overexpression of TNF, such as autoimmune diseases, tumors (e.g. colon
CC   cancer, rectal cancer, uterine cancer, brain tumor, leukemia, lymphoma),
CC   Crohn's disease, rheumatoid arthritis, allergies, psoriasis, cachexia,
CC   transplant rejection, stroke, ischemia, restenosis, AIDS, severe acute
CC   respiratory syndrome (SARS), atherosclerosis, Behcet's disease, systemic
CC   lupus erythematosus, malaria, meningitis, hepatitis, Alzheimer's disease,
CC   etc. The TNF mutant proteins are highly stable in vivo. This sequence
CC   represents a human TNF-alpha mutant protein specific for TNF-R1. Note:
CC   The sequence data for this patent did not form part of the printed
CC   specification, but was obtained in electronic format directly from WIPO
CC   at ftp.wipo.int/pub/published_pct_sequences.
XX
SQ   Sequence 157 AA;

  Query Match             98.6%;  Score 803;  DB 9;  Length 157;
  Best Local Similarity   98.1%;  Pred. No. 1.3e-74;
  Matches  154;  Conservative    2;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||||||||||||||||||| ::||||||||||
Db        121 GGVFQLEPGDRLSAEINRPDYLDFKDTGQVYFGIIAL 157


RESULT 6
AEB45453
ID   AEB45453 standard; protein; 157 AA.
XX
AC   AEB45453;
XX
DT   22-SEP-2005  (first entry)
XX
DE   TNF-R2 specific human TNF-alpha mutant protein, SEQ ID No:37.
XX
KW   tumor necrosis factor-alpha; TNF-alpha; TNF inhibitor; inflammation;
KW   autoimmune disease; tumor; transplant rejection; cardiovascular disease;
KW   acquired immune deficiency syndrome; severe acute respiratory syndrome;
KW   plasmodium infection; meningitis; hepatitis; Alzheimers disease;
KW   antiinflammatory; cytostatic; antirheumatic; antiarthritic; antiallergic;
KW   antipsoriatic; anti-HIV; antiarteriosclerotic; immunosuppressive;
KW   vasotropic; cerebroprotective; dermatological; immunomodulator;
KW   antimalarial; antibacterial; hepatotropic; neuroprotective; nootropic;
KW   mutein.
XX
OS   Homo sapiens.
OS   Synthetic.
XX
PN   WO2005066206-A1.
XX
PD   21-JUL-2005.
XX
PF   05-JAN-2005; 2005WO-JP000032.
XX
PR   06-JAN-2004; 2004JP-00001427.
XX
PA   (HAYB ) HAYASHIBARA SEIBUTSU KAGAKU.
PA   (MAYU/) MAYUMI T.
PA   (TSUT/) TSUTSUMI Y.
PA   (NAKA/) NAKAGAWA S.
XX
PI   Mayumi T,  Tsutsumi Y,  Nakagawa S,  Ohta T;
XX
DR   WPI; 2005-506850/51.
DR   N-PSDB; AEB45476.
XX
PT   Novel tumor necrosis factor TNF mutant protein, useful for treating
PT   and/or preventing diseases such as inflammation, and other diseases
PT   caused by overexpression of TNF, such as autoimmune diseases, tumor,
PT   rheumatoid arthritis, allergy.
XX
PS   Claim 5; SEQ ID NO 37; 34pp; Japanese.
XX
CC   The invention relates to tumor necrosis factor (TNF) mutant proteins,
CC   particularly tumor necrosis factor mutant proteins specific for TNF-R1 or
CC   TNF-R2 (SEQ ID Nos 19-22 and 37-59 respectively). The invention discloses
CC   a TNF mutant protein comprising an amino acid sequence derived from the
CC   human TNF-alpha protein (given as SEQ ID No: 1) by the substitution of
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CC   one or more amino acid residues at 29, 31, 32, 145, 146 and 147 from the
CC   N-terminus, and amino acid residues at positions 84-89 by other amino
CC   acid residue(s). Also described are: (1) a TNF inhibitor comprising a TNF
CC   mutant protein; and (2) a TNF formulation comprising a TNF mutant
CC   protein. The TNF mutant proteins are useful for treating and/or
CC   preventing diseases such as inflammation, and other diseases caused by
CC   overexpression of TNF, such as autoimmune diseases, tumors (e.g. colon
CC   cancer, rectal cancer, uterine cancer, brain tumor, leukemia, lymphoma),
CC   Crohn's disease, rheumatoid arthritis, allergies, psoriasis, cachexia,
CC   transplant rejection, stroke, ischemia, restenosis, AIDS, severe acute
CC   respiratory syndrome (SARS), atherosclerosis, Behcet's disease, systemic
CC   lupus erythematosus, malaria, meningitis, hepatitis, Alzheimer's disease,
CC   etc. The TNF mutant proteins are highly stable in vivo. This sequence
CC   represents a human TNF-alpha mutant protein specific for TNF-R2. Note:
CC   The sequence data for this patent did not form part of the printed
CC   specification, but was obtained in electronic format directly from WIPO
CC   at ftp.wipo.int/pub/published_pct_sequences.
XX
SQ   Sequence 157 AA;

  Query Match             98.3%;  Score 800;  DB 9;  Length 157;
  Best Local Similarity   98.7%;  Pred. No. 2.7e-74;
  Matches  155;  Conservative    0;  Mismatches    2;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              ||||||||||||||||||||||||||| || ||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWQNRWANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              |||||||||||||||||||||||||||||||||||||
Db        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 7
AEB45431
ID   AEB45431 standard; protein; 157 AA.
XX
AC   AEB45431;
XX
DT   22-SEP-2005  (first entry)
XX
DE   TNF-R1 specific human TNF-alpha mutant protein, SEQ ID No:15.
XX
KW   tumor necrosis factor-alpha; TNF-alpha; TNF inhibitor; inflammation;
KW   autoimmune disease; tumor; transplant rejection; cardiovascular disease;
KW   acquired immune deficiency syndrome; severe acute respiratory syndrome;
KW   plasmodium infection; meningitis; hepatitis; Alzheimers disease;
KW   antiinflammatory; cytostatic; antirheumatic; antiarthritic; antiallergic;
KW   antipsoriatic; anti-HIV; antiarteriosclerotic; immunosuppressive;
KW   vasotropic; cerebroprotective; dermatological; immunomodulator;
KW   antimalarial; antibacterial; hepatotropic; neuroprotective; nootropic;
KW   mutein.
XX
OS   Homo sapiens.
OS   Synthetic.
XX
PN   WO2005066206-A1.
XX
PD   21-JUL-2005.
XX
PF   05-JAN-2005; 2005WO-JP000032.
XX
PR   06-JAN-2004; 2004JP-00001427.
XX
PA   (HAYB ) HAYASHIBARA SEIBUTSU KAGAKU.
PA   (MAYU/) MAYUMI T.
PA   (TSUT/) TSUTSUMI Y.
PA   (NAKA/) NAKAGAWA S.
XX
PI   Mayumi T,  Tsutsumi Y,  Nakagawa S,  Ohta T;
XX
DR   WPI; 2005-506850/51.
DR   N-PSDB; AEB45445.
XX
PT   Novel tumor necrosis factor TNF mutant protein, useful for treating
PT   and/or preventing diseases such as inflammation, and other diseases
PT   caused by overexpression of TNF, such as autoimmune diseases, tumor,
PT   rheumatoid arthritis, allergy.
XX
PS   Claim 4; SEQ ID NO 15; 34pp; Japanese.
XX
CC   The invention relates to tumor necrosis factor (TNF) mutant proteins,
CC   particularly tumor necrosis factor mutant proteins specific for TNF-R1 or
CC   TNF-R2 (SEQ ID Nos 19-22 and 37-59 respectively). The invention discloses
CC   a TNF mutant protein comprising an amino acid sequence derived from the
CC   human TNF-alpha protein (given as SEQ ID No: 1) by the substitution of
CC   one or more amino acid residues at 29, 31, 32, 145, 146 and 147 from the
CC   N-terminus, and amino acid residues at positions 84-89 by other amino
CC   acid residue(s). Also described are: (1) a TNF inhibitor comprising a TNF
CC   mutant protein; and (2) a TNF formulation comprising a TNF mutant
CC   protein. The TNF mutant proteins are useful for treating and/or
CC   preventing diseases such as inflammation, and other diseases caused by
CC   overexpression of TNF, such as autoimmune diseases, tumors (e.g. colon
CC   cancer, rectal cancer, uterine cancer, brain tumor, leukemia, lymphoma),
CC   Crohn's disease, rheumatoid arthritis, allergies, psoriasis, cachexia,
CC   transplant rejection, stroke, ischemia, restenosis, AIDS, severe acute
CC   respiratory syndrome (SARS), atherosclerosis, Behcet's disease, systemic
CC   lupus erythematosus, malaria, meningitis, hepatitis, Alzheimer's disease,
CC   etc. The TNF mutant proteins are highly stable in vivo. This sequence
CC   represents a human TNF-alpha mutant protein specific for TNF-R1. Note:
CC   The sequence data for this patent did not form part of the printed
CC   specification, but was obtained in electronic format directly from WIPO
CC   at ftp.wipo.int/pub/published_pct_sequences.
XX
SQ   Sequence 157 AA;

  Query Match             98.2%;  Score 799;  DB 9;  Length 157;
  Best Local Similarity   98.1%;  Pred. No. 3.4e-74;
  Matches  154;  Conservative    0;  Mismatches    3;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              |||||||||||||||||||||||    ||||||||||
Db        121 GGVFQLEPGDRLSAEINRPDYLDFRTDGQVYFGIIAL 157


RESULT 8
AEB45454
ID   AEB45454 standard; protein; 157 AA.
XX
AC   AEB45454;
XX
DT   22-SEP-2005  (first entry)
XX
DE   TNF-R2 specific human TNF-alpha mutant protein, SEQ ID No:38.
XX
KW   tumor necrosis factor-alpha; TNF-alpha; TNF inhibitor; inflammation;
KW   autoimmune disease; tumor; transplant rejection; cardiovascular disease;
KW   acquired immune deficiency syndrome; severe acute respiratory syndrome;
KW   plasmodium infection; meningitis; hepatitis; Alzheimers disease;
KW   antiinflammatory; cytostatic; antirheumatic; antiarthritic; antiallergic;
KW   antipsoriatic; anti-HIV; antiarteriosclerotic; immunosuppressive;
KW   vasotropic; cerebroprotective; dermatological; immunomodulator;
KW   antimalarial; antibacterial; hepatotropic; neuroprotective; nootropic;
KW   mutein.
```

```
XX
OS   Homo sapiens.
OS   Synthetic.
XX
PN   WO2005066206-A1.
XX
PD   21-JUL-2005.
XX
PF   05-JAN-2005; 2005WO-JP000032.
XX
PR   06-JAN-2004; 2004JP-00001427.
XX
PA   (HAYB ) HAYASHIBARA SEIBUTSU KAGAKU.
PA   (MAYU/) MAYUMI T.
PA   (TSUT/) TSUTSUMI Y.
PA   (NAKA/) NAKAGAWA S.
XX
PI   Mayumi T,  Tsutsumi Y,  Nakagawa S,  Ohta T;
XX
DR   WPI; 2005-506850/51.
DR   N-PSDB; AEB45477.
XX
PT   Novel tumor necrosis factor TNF mutant protein, useful for treating
PT   and/or preventing diseases such as inflammation, and other diseases
PT   caused by overexpression of TNF, such as autoimmune diseases, tumor,
PT   rheumatoid arthritis, allergy.
XX
PS   Claim 5; SEQ ID NO 38; 34pp; Japanese.
XX
CC   The invention relates to tumor necrosis factor (TNF) mutant proteins,
CC   particularly tumor necrosis factor mutant proteins specific for TNF-R1 or
CC   TNF-R2 (SEQ ID Nos 19-22 and 37-59 respectively). The invention discloses
CC   a TNF mutant protein comprising an amino acid sequence derived from the
CC   human TNF-alpha protein (given as SEQ ID No: 1) by the substitution of
CC   one or more amino acid residues at 29, 31, 32, 145, 146 and 147 from the
CC   N-terminus, and amino acid residues at positions 84-89 by other amino
CC   acid residue(s). Also described are: (1) a TNF inhibitor comprising a TNF
CC   mutant protein; and (2) a TNF formulation comprising a TNF mutant
CC   protein. The TNF mutant proteins are useful for treating and/or
CC   preventing diseases such as inflammation, and other diseases caused by
CC   overexpression of TNF, such as autoimmune diseases, tumors (e.g. colon
CC   cancer, rectal cancer, uterine cancer, brain tumor, leukemia, lymphoma),
CC   Crohn's disease, rheumatoid arthritis, allergies, psoriasis, cachexia,
CC   transplant rejection, stroke, ischemia, restenosis, AIDS, severe acute
CC   respiratory syndrome (SARS), atherosclerosis, Behcet's disease, systemic
CC   lupus erythematosus, malaria, meningitis, hepatitis, Alzheimer's disease,
CC   etc. The TNF mutant proteins are highly stable in vivo. This sequence
CC   represents a human TNF-alpha mutant protein specific for TNF-R2. Note:
CC   The sequence data for this patent did not form part of the printed
CC   specification, but was obtained in electronic format directly from WIPO
CC   at ftp.wipo.int/pub/published_pct_sequences.
XX
SQ   Sequence 157 AA;

  Query Match             97.7%;  Score 795;  DB 9;  Length 157;
  Best Local Similarity   98.1%;  Pred. No. 8.8e-74;
  Matches  154;  Conservative    0;  Mismatches    3;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              ||||||||||||||||||||||||||| |  ||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWTNGYANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              |||||||||||||||||||||||||||||||||||||
Db        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 9
AEB45469
ID   AEB45469 standard; protein; 157 AA.
XX
AC   AEB45469;
XX
DT   22-SEP-2005  (first entry)
XX
DE   TNF-R2 specific human TNF-alpha mutant protein, SEQ ID No:53.
XX
KW   tumor necrosis factor-alpha; TNF-alpha; TNF inhibitor; inflammation;
KW   autoimmune disease; tumor; transplant rejection; cardiovascular disease;
KW   acquired immune deficiency syndrome; severe acute respiratory syndrome;
KW   plasmodium infection; meningitis; hepatitis; Alzheimers disease;
KW   antiinflammatory; cytostatic; antirheumatic; antiarthritic; antiallergic;
KW   antipsoriatic; anti-HIV; antiarteriosclerotic; immunosuppressive;
KW   vasotropic; cerebroprotective; dermatological; immunomodulator;
KW   antimalarial; antibacterial; hepatotropic; neuroprotective; nootropic;
KW   mutein.
XX
OS   Homo sapiens.
OS   Synthetic.
XX
PN   WO2005066206-A1.
XX
PD   21-JUL-2005.
XX
PF   05-JAN-2005; 2005WO-JP000032.
XX
PR   06-JAN-2004; 2004JP-00001427.
XX
PA   (HAYB ) HAYASHIBARA SEIBUTSU KAGAKU.
PA   (MAYU/) MAYUMI T.
PA   (TSUT/) TSUTSUMI Y.
PA   (NAKA/) NAKAGAWA S.
XX
PI   Mayumi T,  Tsutsumi Y,  Nakagawa S,  Ohta T;
XX
DR   WPI; 2005-506850/51.
DR   N-PSDB; AEB45492.
XX
PT   Novel tumor necrosis factor TNF mutant protein, useful for treating
PT   and/or preventing diseases such as inflammation, and other diseases
PT   caused by overexpression of TNF, such as autoimmune diseases, tumor,
PT   rheumatoid arthritis, allergy.
XX
PS   Claim 5; SEQ ID NO 53; 34pp; Japanese.
XX
CC   The invention relates to tumor necrosis factor (TNF) mutant proteins,
CC   particularly tumor necrosis factor mutant proteins specific for TNF-R1 or
CC   TNF-R2 (SEQ ID Nos 19-22 and 37-59 respectively). The invention discloses
CC   a TNF mutant protein comprising an amino acid sequence derived from the
CC   human TNF-alpha protein (given as SEQ ID No: 1) by the substitution of
CC   one or more amino acid residues at 29, 31, 32, 145, 146 and 147 from the
CC   N-terminus, and amino acid residues at positions 84-89 by other amino
CC   acid residue(s). Also described are: (1) a TNF inhibitor comprising a TNF
CC   mutant protein; and (2) a TNF formulation comprising a TNF mutant
CC   protein. The TNF mutant proteins are useful for treating and/or
CC   preventing diseases such as inflammation, and other diseases caused by
CC   overexpression of TNF, such as autoimmune diseases, tumors (e.g. colon
CC   cancer, rectal cancer, uterine cancer, brain tumor, leukemia, lymphoma),
CC   Crohn's disease, rheumatoid arthritis, allergies, psoriasis, cachexia,
CC   transplant rejection, stroke, ischemia, restenosis, AIDS, severe acute
CC   respiratory syndrome (SARS), atherosclerosis, Behcet's disease, systemic
CC   lupus erythematosus, malaria, meningitis, hepatitis, Alzheimer's disease,
CC   etc. The TNF mutant proteins are highly stable in vivo. This sequence
CC   represents a human TNF-alpha mutant protein specific for TNF-R2. Note:
CC   The sequence data for this patent did not form part of the printed
CC   specification, but was obtained in electronic format directly from WIPO
CC   at ftp.wipo.int/pub/published_pct_sequences.
XX
SQ   Sequence 157 AA;

  Query Match             97.4%;  Score 793;  DB 9;  Length 157;
  Best Local Similarity   97.5%;  Pred. No. 1.4e-73;
```

```
  Matches  153;  Conservative    0;  Mismatches    4;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              ||||||||||||||||||||||  ||  ||||||||||||||||||||||||||||||||
Db         61 QVLFSGQGCPSTHVLLTHTISRITKSYSKPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              |||||||||||||||||||||||||||||||||||||
Db        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 10
AEB45438
ID   AEB45438 standard; protein; 157 AA.
XX
AC   AEB45438;
XX
DT   22-SEP-2005  (first entry)
XX
DE   TNF-R1 specific human TNF-alpha mutant protein, SEQ ID No:22.
XX
KW   tumor necrosis factor-alpha; TNF-alpha; TNF inhibitor; inflammation;
KW   autoimmune disease; tumor; transplant rejection; cardiovascular disease;
KW   acquired immune deficiency syndrome; severe acute respiratory syndrome;
KW   plasmodium infection; meningitis; hepatitis; Alzheimers disease;
KW   antiinflammatory; cytostatic; antirheumatic; antiarthritic; antiallergic;
KW   antipsoriatic; anti-HIV; antiarteriosclerotic; immunosuppressive;
KW   vasotropic; cerebroprotective; dermatological; immunomodulator;
KW   antimalarial; antibacterial; hepatotropic; neuroprotective; nootropic;
KW   mutein.
XX
OS   Homo sapiens.
OS   Synthetic.
XX
PN   WO2005066206-A1.
XX
PD   21-JUL-2005.
XX
PF   05-JAN-2005; 2005WO-JP000032.
XX
PR   06-JAN-2004; 2004JP-00001427.
XX
PA   (HAYB ) HAYASHIBARA SEIBUTSU KAGAKU.
PA   (MAYU/) MAYUMI T.
PA   (TSUT/) TSUTSUMI Y.
PA   (NAKA/) NAKAGAWA S.
XX
PI   Mayumi T,  Tsutsumi Y,  Nakagawa S,  Ohta T;
XX
DR   WPI; 2005-506850/51.
DR   N-PSDB; AEB45452.
XX
PT   Novel tumor necrosis factor TNF mutant protein, useful for treating
PT   and/or preventing diseases such as inflammation, and other diseases
PT   caused by overexpression of TNF, such as autoimmune diseases, tumor,
PT   rheumatoid arthritis, allergy.
XX
PS   Claim 4; SEQ ID NO 22; 34pp; Japanese.
XX
CC   The invention relates to tumor necrosis factor (TNF) mutant proteins,
CC   particularly tumor necrosis factor mutant proteins specific for TNF-R1 or
CC   TNF-R2 (SEQ ID Nos 19-22 and 37-59 respectively). The invention discloses
CC   a TNF mutant protein comprising an amino acid sequence derived from the
CC   human TNF-alpha protein (given as SEQ ID No: 1) by the substitution of
CC   one or more amino acid residues at 29, 31, 32, 145, 146 and 147 from the
CC   N-terminus, and amino acid residues at positions 84-89 by other amino
CC   acid residue(s). Also described are: (1) a TNF inhibitor comprising a TNF
CC   mutant protein; and (2) a TNF formulation comprising a TNF mutant
CC   protein. The TNF mutant proteins are useful for treating and/or
CC   preventing diseases such as inflammation, and other diseases caused by
CC   overexpression of TNF, such as autoimmune diseases, tumors (e.g. colon
CC   cancer, rectal cancer, uterine cancer, brain tumor, leukemia, lymphoma),
CC   Crohn's disease, rheumatoid arthritis, allergies, psoriasis, cachexia,
CC   transplant rejection, stroke, ischemia, restenosis, AIDS, severe acute
CC   respiratory syndrome (SARS), atherosclerosis, Behcet's disease, systemic
CC   lupus erythematosus, malaria, meningitis, hepatitis, Alzheimer's disease,
CC   etc. The TNF mutant proteins are highly stable in vivo. This sequence
CC   represents a human TNF-alpha mutant protein specific for TNF-R1. Note:
CC   The sequence data for this patent did not form part of the printed
CC   specification, but was obtained in electronic format directly from WIPO
CC   at ftp.wipo.int/pub/published_pct_sequences.
XX
SQ   Sequence 157 AA;

  Query Match             97.3%;  Score 792;  DB 9;  Length 157;
  Best Local Similarity   97.5%;  Pred. No. 1.8e-73;
  Matches  153;  Conservative    0;  Mismatches    4;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              ||||||||||||||||||||||  ||  ||||||||||||||||||||||||||||||||
Db         61 QVLFSGQGCPSTHVLLTHTISRIGGPYQRPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              |||||||||||||||||||||||||||||||||||||
Db        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 11
AEB45436
ID   AEB45436 standard; protein; 157 AA.
XX
AC   AEB45436;
XX
DT   22-SEP-2005  (first entry)
XX
DE   TNF-R1 specific human TNF-alpha mutant protein, SEQ ID No:20.
XX
KW   tumor necrosis factor-alpha; TNF-alpha; TNF inhibitor; inflammation;
KW   autoimmune disease; tumor; transplant rejection; cardiovascular disease;
KW   acquired immune deficiency syndrome; severe acute respiratory syndrome;
KW   plasmodium infection; meningitis; hepatitis; Alzheimers disease;
KW   antiinflammatory; cytostatic; antirheumatic; antiarthritic; antiallergic;
KW   antipsoriatic; anti-HIV; antiarteriosclerotic; immunosuppressive;
KW   vasotropic; cerebroprotective; dermatological; immunomodulator;
KW   antimalarial; antibacterial; hepatotropic; neuroprotective; nootropic;
KW   mutein.
XX
OS   Homo sapiens.
OS   Synthetic.
XX
PN   WO2005066206-A1.
XX
PD   21-JUL-2005.
XX
PF   05-JAN-2005; 2005WO-JP000032.
XX
PR   06-JAN-2004; 2004JP-00001427.
XX
PA   (HAYB ) HAYASHIBARA SEIBUTSU KAGAKU.
PA   (MAYU/) MAYUMI T.
PA   (TSUT/) TSUTSUMI Y.
PA   (NAKA/) NAKAGAWA S.
XX
PI   Mayumi T,  Tsutsumi Y,  Nakagawa S,  Ohta T;
XX
DR   WPI; 2005-506850/51.
DR   N-PSDB; AEB45450.
XX
```

```
PT   Novel tumor necrosis factor TNF mutant protein, useful for treating
PT   and/or preventing diseases such as inflammation, and other diseases
PT   caused by overexpression of TNF, such as autoimmune diseases, tumor,
PT   rheumatoid arthritis, allergy.
XX
PS   Claim 4; SEQ ID NO 20; 34pp; Japanese.
XX
CC   The invention relates to tumor necrosis factor (TNF) mutant proteins,
CC   particularly tumor necrosis factor mutant proteins specific for TNF-R1 or
CC   TNF-R2 (SEQ ID Nos 19-22 and 37-59 respectively). The invention discloses
CC   a TNF mutant protein comprising an amino acid sequence derived from the
CC   human TNF-alpha protein (given as SEQ ID No: 1) by the substitution of
CC   one or more amino acid residues at 29, 31, 32, 145, 146 and 147 from the
CC   N-terminus, and amino acid residues at positions 84-89 by other amino
CC   acid residue(s). Also described are: (1) a TNF inhibitor comprising a TNF
CC   mutant protein; and (2) a TNF formulation comprising a TNF mutant
CC   protein. The TNF mutant proteins are useful for treating and/or
CC   preventing diseases such as inflammation, and other diseases caused by
CC   overexpression of TNF, such as autoimmune diseases, tumors (e.g. colon
CC   cancer, rectal cancer, uterine cancer, brain tumor, leukemia, lymphoma),
CC   Crohn's disease, rheumatoid arthritis, allergies, psoriasis, cachexia,
CC   transplant rejection, stroke, ischemia, restenosis, AIDS, severe acute
CC   respiratory syndrome (SARS), atherosclerosis, Behcet's disease, systemic
CC   lupus erythematosus, malaria, meningitis, hepatitis, Alzheimer's disease,
CC   etc. The TNF mutant proteins are highly stable in vivo. This sequence
CC   represents a human TNF-alpha mutant protein specific for TNF-R1. Note:
CC   The sequence data for this patent did not form part of the printed
CC   specification, but was obtained in electronic format directly from WIPO
CC   at ftp.wipo.int/pub/published_pct_sequences.
XX
SQ   Sequence 157 AA;

  Query Match             97.3%;  Score 792;  DB 9;  Length 157;
  Best Local Similarity   97.5%;  Pred. No. 1.8e-73;
  Matches  153;  Conservative    0;  Mismatches    4;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              ||||||||||||||||||||||  |  ||||||||||||||||||||||||||||||||||
Db         61 QVLFSGQGCPSTHVLLTHTISRIAPGYSHPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              |||||||||||||||||||||||||||||||||||||
Db        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 12
AEB45461
ID   AEB45461 standard; protein; 157 AA.
XX
AC   AEB45461;
XX
DT   22-SEP-2005  (first entry)
XX
DE   TNF-R2 specific human TNF-alpha mutant protein, SEQ ID No:45.
XX
KW   tumor necrosis factor-alpha; TNF-alpha; TNF inhibitor; inflammation;
KW   autoimmune disease; tumor; transplant rejection; cardiovascular disease;
KW   acquired immune deficiency syndrome; severe acute respiratory syndrome;
KW   plasmodium infection; meningitis; hepatitis; Alzheimers disease;
KW   antiinflammatory; cytostatic; antirheumatic; antiarthritic; antiallergic;
KW   antipsoriatic; anti-HIV; antiarteriosclerotic; immunosuppressive;
KW   vasotropic; cerebroprotective; dermatological; immunomodulator;
KW   antimalarial; antibacterial; hepatotropic; neuroprotective; nootropic;
KW   mutein.
XX
OS   Homo sapiens.
OS   Synthetic.
XX
PN   WO2005066206-A1.
XX
PD   21-JUL-2005.
XX
PF   05-JAN-2005; 2005WO-JP000032.
XX
PR   06-JAN-2004; 2004JP-00001427.
XX
PA   (HAYB ) HAYASHIBARA SEIBUTSU KAGAKU.
PA   (MAYU/) MAYUMI T.
PA   (TSUT/) TSUTSUMI Y.
PA   (NAKA/) NAKAGAWA S.
XX
PI   Mayumi T,  Tsutsumi Y,  Nakagawa S,  Ohta T;
XX
DR   WPI; 2005-506850/51.
DR   N-PSDB; AEB45484.
XX
PT   Novel tumor necrosis factor TNF mutant protein, useful for treating
PT   and/or preventing diseases such as inflammation, and other diseases
PT   caused by overexpression of TNF, such as autoimmune diseases, tumor,
PT   rheumatoid arthritis, allergy.
XX
PS   Claim 5; SEQ ID NO 45; 34pp; Japanese.
XX
CC   The invention relates to tumor necrosis factor (TNF) mutant proteins,
CC   particularly tumor necrosis factor mutant proteins specific for TNF-R1 or
CC   TNF-R2 (SEQ ID Nos 19-22 and 37-59 respectively). The invention discloses
CC   a TNF mutant protein comprising an amino acid sequence derived from the
CC   human TNF-alpha protein (given as SEQ ID No: 1) by the substitution of
CC   one or more amino acid residues at 29, 31, 32, 145, 146 and 147 from the
CC   N-terminus, and amino acid residues at positions 84-89 by other amino
CC   acid residue(s). Also described are: (1) a TNF inhibitor comprising a TNF
CC   mutant protein; and (2) a TNF formulation comprising a TNF mutant
CC   protein. The TNF mutant proteins are useful for treating and/or
CC   preventing diseases such as inflammation, and other diseases caused by
CC   overexpression of TNF, such as autoimmune diseases, tumors (e.g. colon
CC   cancer, rectal cancer, uterine cancer, brain tumor, leukemia, lymphoma),
CC   Crohn's disease, rheumatoid arthritis, allergies, psoriasis, cachexia,
CC   transplant rejection, stroke, ischemia, restenosis, AIDS, severe acute
CC   respiratory syndrome (SARS), atherosclerosis, Behcet's disease, systemic
CC   lupus erythematosus, malaria, meningitis, hepatitis, Alzheimer's disease,
CC   etc. The TNF mutant proteins are highly stable in vivo. This sequence
CC   represents a human TNF-alpha mutant protein specific for TNF-R2. Note:
CC   The sequence data for this patent did not form part of the printed
CC   specification, but was obtained in electronic format directly from WIPO
CC   at ftp.wipo.int/pub/published_pct_sequences.
XX
SQ   Sequence 157 AA;

  Query Match             97.3%;  Score 792;  DB 9;  Length 157;
  Best Local Similarity   96.8%;  Pred. No. 1.8e-73;
  Matches  152;  Conservative    3;  Mismatches    2;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              |||||||||||||||||||||: :| :|||||||||||||||||||||||||||||||||||
Db         61 QVLFSGQGCPSTHVLLTHTISRISSAYASPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              |||||||||||||||||||||||||||||||||||||
Db        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 13
AEB45460
ID   AEB45460 standard; protein; 157 AA.
XX
AC   AEB45460;
XX
DT   22-SEP-2005  (first entry)
```

XX
DE TNF-R2 specific human TNF-alpha mutant protein, SEQ ID No:44.
XX
KW tumor necrosis factor-alpha; TNF-alpha; TNF inhibitor; inflammation;
KW autoimmune disease; tumor; transplant rejection; cardiovascular disease;
KW acquired immune deficiency syndrome; severe acute respiratory syndrome;
KW plasmodium infection; meningitis; hepatitis; Alzheimers disease;
KW antiinflammatory; cytostatic; antirheumatic; antiarthritic; antiallergic;
KW antipsoriatic; anti-HIV; antiarteriosclerotic; immunosuppressive;
KW vasotropic; cerebroprotective; dermatological; immunomodulator;
KW antimalarial; antibacterial; hepatotropic; neuroprotective; nootropic;
KW mutein.
XX
OS Homo sapiens.
OS Synthetic.
XX
PN WO2005066206-A1.
XX
PD 21-JUL-2005.
XX
PF 05-JAN-2005; 2005WO-JP000032.
XX
PR 06-JAN-2004; 2004JP-00001427.
XX
PA (HAYB) HAYASHIBARA SEIBUTSU KAGAKU.
PA (MAYU/) MAYUMI T.
PA (TSUT/) TSUTSUMI Y.
PA (NAKA/) NAKAGAWA S.
XX
PI Mayumi T, Tsutsumi Y, Nakagawa S, Ohta T;
XX
DR WPI; 2005-506850/51.
DR N-PSDB; AEB45483.
XX
PT Novel tumor necrosis factor TNF mutant protein, useful for treating
PT and/or preventing diseases such as inflammation, and other diseases
PT caused by overexpression of TNF, such as autoimmune diseases, tumor,
PT rheumatoid arthritis, allergy.
XX
PS Claim 5; SEQ ID NO 44; 34pp; Japanese.
XX
CC The invention relates to tumor necrosis factor (TNF) mutant proteins,
CC particularly tumor necrosis factor mutant proteins specific for TNF-R1 or
CC TNF-R2 (SEQ ID Nos 19-22 and 37-59 respectively). The invention discloses
CC a TNF mutant protein comprising an amino acid sequence derived from the
CC human TNF-alpha protein (given as SEQ ID No: 1) by the substitution of
CC one or more amino acid residues at 29, 31, 32, 145, 146 and 147 from the
CC N-terminus, and amino acid residues at positions 84-89 by other amino
CC acid residue(s). Also described are: (1) a TNF inhibitor comprising a TNF
CC mutant protein; and (2) a TNF formulation comprising a TNF mutant
CC protein. The TNF mutant proteins are useful for treating and/or
CC preventing diseases such as inflammation, and other diseases caused by
CC overexpression of TNF, such as autoimmune diseases, tumors (e.g. colon
CC cancer, rectal cancer, uterine cancer, brain tumor, leukemia, lymphoma),
CC Crohn's disease, rheumatoid arthritis, allergies, psoriasis, cachexia,
CC transplant rejection, stroke, ischemia, restenosis, AIDS, severe acute
CC respiratory syndrome (SARS), atherosclerosis, Behcet's disease, systemic
CC lupus erythematosus, malaria, meningitis, hepatitis, Alzheimer's disease,
CC etc. The TNF mutant proteins are highly stable in vivo. This sequence
CC represents a human TNF-alpha mutant protein specific for TNF-R2. Note:
CC The sequence data for this patent did not form part of the printed
CC specification, but was obtained in electronic format directly from WIPO
CC at ftp.wipo.int/pub/published_pct_sequences.
XX
SQ Sequence 157 AA;

Query Match 97.2%; Score 791; DB 9; Length 157;
Best Local Similarity 96.8%; Pred. No. 2.3e-73;
Matches 152; Conservative 2; Mismatches 3; Indels 0; Gaps 0;

Qy 1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
Db 1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy 61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
Db 61 QVLFSGQGCPSTHVLLTHTISRISYNYNGPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120

Qy 121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
Db 121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157

RESULT 14
AEB45464
ID AEB45464 standard; protein; 157 AA.
XX
AC AEB45464;
XX
DT 22-SEP-2005 (first entry)
XX
DE TNF-R2 specific human TNF-alpha mutant protein, SEQ ID No:48.
XX
KW tumor necrosis factor-alpha; TNF-alpha; TNF inhibitor; inflammation;
KW autoimmune disease; tumor; transplant rejection; cardiovascular disease;
KW acquired immune deficiency syndrome; severe acute respiratory syndrome;
KW plasmodium infection; meningitis; hepatitis; Alzheimers disease;
KW antiinflammatory; cytostatic; antirheumatic; antiarthritic; antiallergic;
KW antipsoriatic; anti-HIV; antiarteriosclerotic; immunosuppressive;
KW vasotropic; cerebroprotective; dermatological; immunomodulator;
KW antimalarial; antibacterial; hepatotropic; neuroprotective; nootropic;
KW mutein.
XX
OS Homo sapiens.
OS Synthetic.
XX
PN WO2005066206-A1.
XX
PD 21-JUL-2005.
XX
PF 05-JAN-2005; 2005WO-JP000032.
XX
PR 06-JAN-2004; 2004JP-00001427.
XX
PA (HAYB) HAYASHIBARA SEIBUTSU KAGAKU.
PA (MAYU/) MAYUMI T.
PA (TSUT/) TSUTSUMI Y.
PA (NAKA/) NAKAGAWA S.
XX
PI Mayumi T, Tsutsumi Y, Nakagawa S, Ohta T;
XX
DR WPI; 2005-506850/51.
DR N-PSDB; AEB45487.
XX
PT Novel tumor necrosis factor TNF mutant protein, useful for treating
PT and/or preventing diseases such as inflammation, and other diseases
PT caused by overexpression of TNF, such as autoimmune diseases, tumor,
PT rheumatoid arthritis, allergy.
XX
PS Claim 5; SEQ ID NO 48; 34pp; Japanese.
XX
CC The invention relates to tumor necrosis factor (TNF) mutant proteins,
CC particularly tumor necrosis factor mutant proteins specific for TNF-R1 or
CC TNF-R2 (SEQ ID Nos 19-22 and 37-59 respectively). The invention discloses
CC a TNF mutant protein comprising an amino acid sequence derived from the
CC human TNF-alpha protein (given as SEQ ID No: 1) by the substitution of
CC one or more amino acid residues at 29, 31, 32, 145, 146 and 147 from the
CC N-terminus, and amino acid residues at positions 84-89 by other amino
CC acid residue(s). Also described are: (1) a TNF inhibitor comprising a TNF
CC mutant protein; and (2) a TNF formulation comprising a TNF mutant
CC protein. The TNF mutant proteins are useful for treating and/or
CC preventing diseases such as inflammation, and other diseases caused by
CC overexpression of TNF, such as autoimmune diseases, tumors (e.g. colon
CC cancer, rectal cancer, uterine cancer, brain tumor, leukemia, lymphoma),
CC Crohn's disease, rheumatoid arthritis, allergies, psoriasis, cachexia,
CC transplant rejection, stroke, ischemia, restenosis, AIDS, severe acute

CC respiratory syndrome (SARS), atherosclerosis, Behcet's disease, systemic
CC lupus erythematosus, malaria, meningitis, hepatitis, Alzheimer's disease,
CC etc. The TNF mutant proteins are highly stable in vivo. This sequence
CC represents a human TNF-alpha mutant protein specific for TNF-R2. Note:
CC The sequence data for this patent did not form part of the printed
CC specification, but was obtained in electronic format directly from WIPO
CC at ftp.wipo.int/pub/published_pct_sequences.
XX
SQ Sequence 157 AA;

Query Match 97.2%; Score 791; DB 9; Length 157;
Best Local Similarity 96.8%; Pred. No. 2.3e-73;
Matches 152; Conservative 1; Mismatches 4; Indels 0; Gaps 0;

Qy 1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
Db 1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy 61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
Db 61 QVLFSGQGCPSTHVLLTHTISRITTAYSGPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120

Qy 121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
Db 121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157

RESULT 15
AEB45472
ID AEB45472 standard; protein; 157 AA.
XX
AC AEB45472;
XX
DT 22-SEP-2005 (first entry)
XX
DE TNF-R2 specific human TNF-alpha mutant protein, SEQ ID No:56.
XX
KW tumor necrosis factor-alpha; TNF-alpha; TNF inhibitor; inflammation;
KW autoimmune disease; tumor; transplant rejection; cardiovascular disease;
KW acquired immune deficiency syndrome; severe acute respiratory syndrome;
KW plasmodium infection; meningitis; hepatitis; Alzheimers disease;
KW antiinflammatory; cytostatic; antirheumatic; antiarthritic; antiallergic;
KW antipsoriatic; anti-HIV; antiarteriosclerotic; immunosuppressive;
KW vasotropic; cerebroprotective; dermatological; immunomodulator;
KW antimalarial; antibacterial; hepatotropic; neuroprotective; nootropic;
KW mutein.
XX
OS Homo sapiens.
OS Synthetic.
XX
PN WO2005066206-A1.
XX
PD 21-JUL-2005.
XX
PF 05-JAN-2005; 2005WO-JP000032.
XX
PR 06-JAN-2004; 2004JP-00001427.
XX
PA (HAYB) HAYASHIBARA SEIBUTSU KAGAKU.
PA (MAYU/) MAYUMI T.
PA (TSUT/) TSUTSUMI Y.
PA (NAKA/) NAKAGAWA S.
XX
PI Mayumi T, Tsutsumi Y, Nakagawa S, Ohta T;
XX
DR WPI; 2005-506850/51.
DR N-PSDB; AEB45495.
XX
PT Novel tumor necrosis factor TNF mutant protein, useful for treating
PT and/or preventing diseases such as inflammation, and other diseases
PT caused by overexpression of TNF, such as autoimmune diseases, tumor,
PT rheumatoid arthritis, allergy.
XX
PS Claim 5; SEQ ID NO 56; 34pp; Japanese.
XX
CC The invention relates to tumor necrosis factor (TNF) mutant proteins,
CC particularly tumor necrosis factor mutant proteins specific for TNF-R1 or
CC TNF-R2 (SEQ ID Nos 19-22 and 37-59 respectively). The invention discloses
CC a TNF mutant protein comprising an amino acid sequence derived from the
CC human TNF-alpha protein (given as SEQ ID No: 1) by the substitution of
CC one or more amino acid residues at 29, 31, 32, 145, 146 and 147 from the
CC N-terminus, and amino acid residues at positions 84-89 by other amino
CC acid residue(s). Also described are: (1) a TNF inhibitor comprising a TNF
CC mutant protein; and (2) a TNF formulation comprising a TNF mutant
CC protein. The TNF mutant proteins are useful for treating and/or
CC preventing diseases such as inflammation, and other diseases caused by
CC overexpression of TNF, such as autoimmune diseases, tumors (e.g. colon
CC cancer, rectal cancer, uterine cancer, brain tumor, leukemia, lymphoma),
CC Crohn's disease, rheumatoid arthritis, allergies, psoriasis, cachexia,
CC transplant rejection, stroke, ischemia, restenosis, AIDS, severe acute
CC respiratory syndrome (SARS), atherosclerosis, Behcet's disease, systemic
CC lupus erythematosus, malaria, meningitis, hepatitis, Alzheimer's disease,
CC etc. The TNF mutant proteins are highly stable in vivo. This sequence
CC represents a human TNF-alpha mutant protein specific for TNF-R2. Note:
CC The sequence data for this patent did not form part of the printed
CC specification, but was obtained in electronic format directly from WIPO
CC at ftp.wipo.int/pub/published_pct_sequences.
XX
SQ Sequence 157 AA;

Query Match 97.1%; Score 790; DB 9; Length 157;
Best Local Similarity 96.8%; Pred. No. 2.9e-73;
Matches 152; Conservative 2; Mismatches 3; Indels 0; Gaps 0;

Qy 1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
Db 1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy 61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
Db 61 QVLFSGQGCPSTHVLLTHTISRISKTYSHPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120

Qy 121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
Db 121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157

Search completed: May 5, 2006, 11:26:33
Job time : 75.25 secs

GenCore version 5.1.7

OM protein - protein search, using sw model

Run on: May 5, 2006, 11:21:42 ; Search time 18 Seconds
(without alignments)
839.224 Million cell updates/sec

Title: US-10-668-178-13
Perfect score: 814
Sequence: 1 VRSSSRTPSDMPVAHVVANP.....RPDYLDFAESGQVYFGIIAL 157

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 283416 seqs, 96216763 residues

Total number of hits satisfying chosen parameters: 283416

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : PIR_80:*
1: pir1:*
2: pir2:*
3: pir3:*
4: pir4:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	779	95.7	233	1	QWHUN	tumor necrosis fac
2	772	94.8	233	1	S22052	tumor necrosis fac
3	712	87.5	233	2	S11688	tumor necrosis fac
4	697	85.6	234	1	JQ1344	tumor necrosis fac
5	677.5	83.2	232	1	S12606	tumor necrosis fac
6	634.5	77.9	235	1	QWMSN	tumor necrosis fac
7	633.5	77.8	234	1	A25451	tumor necrosis fac
8	631	77.5	185	2	S52715	tumor necrosis fac
9	631	77.5	233	1	S24642	tumor necrosis fac
10	629	77.3	234	1	JH0529	tumor necrosis fac
11	628.5	77.2	235	2	I54490	tumor necrosis fac
12	624.5	76.7	193	2	S06192	tumor necrosis fac
13	619.5	76.1	235	2	JU0029	tumor necrosis fac
14	258.5	31.8	197	1	JH0309	tumor necrosis fac
15	250.5	30.8	204	1	S24641	lymphotoxin - bovi
16	247.5	30.4	204	1	S17289	tumor necrosis fac
17	238	29.2	202	1	JN0869	tumor necrosis fac
18	236.5	29.1	202	1	B27303	tumor necrosis fac
19	213.5	26.2	205	1	QWHUX	lymphotoxin alpha
20	173	21.3	244	2	A46066	lymphotoxin beta -
21	166.5	20.5	278	2	A49266	fas ligand - rat
22	161.5	19.8	279	2	A53062	Fas ligand - mouse
23	149	18.3	281	2	I38707	Fas ligand - human
24	143	17.6	306	2	I49139	lymphotoxin-beta -
25	129	15.8	261	2	I53476	CD40 ligand - huma
26	127	15.6	260	2	S21738	CD40 ligand - mous
27	116	14.3	261	2	S53090	CD40 ligand - bovi
28	80	9.8	1560	2	T09202	probable tail comp
29	77.5	9.5	675	2	E75393	hypothetical prote
30	77	9.5	468	2	AC3595	UDP-N-acetylglucos
31	76	9.3	286	2	E91277	probable oxidoredu
32	76	9.3	286	2	E86118	probable oxidoredu
33	74.5	9.2	403	2	I54192	aminomethyltransfe
34	74.5	9.2	479	2	F70965	hypothetical prote
35	74	9.1	286	2	S56436	hypothetical 29.7K
36	74	9.1	473	2	A47050	glutamate-ammonia
37	73.5	9.0	217	2	F86343	hypothetical prote
38	73.5	9.0	352	2	T51835	3-methyl-2-oxobuta
39	73	9.0	533	2	B83813	catalase katX [imp
40	73	9.0	1626	2	T09271	probable tail comp
41	72.5	8.9	385	2	AH2269	heterocyst specifi
42	72.5	8.9	1336	2	T17479	hypothetical prote
43	72.5	8.9	2352	2	C83229	probable non-ribos
44	72	8.8	339	2	T49597	hypothetical prote
45	72	8.8	1369	2	D86178	hypothetical prote

ALIGNMENTS

RESULT 1
QWHUN
tumor necrosis factor alpha precursor [validated] - human
N;Alternate names: cachectin; TNFA
C;Species: Homo sapiens (man)
C;Date: 28-Aug-1985 #sequence_revision 28-Aug-1985 #text_change 09-Jul-2004
C;Accession: A93585; S36153; A93351; A44189; B61478; I53311; S62610; I54522; A01646; B2
R;Nedwin, G.E.; Naylor, S.L.; Sakaguchi, A.Y.; Smith, D.; Jarrett-Nedwin, J.; Pennica,
Nucleic Acids Res. 13, 6361-6373, 1985
A;Title: Human lymphotoxin and tumor necrosis factor genes: structure, homology and chr
A;Reference number: A93585; MUID:86016093; PMID:2995927
A;Accession: A93585
A;Molecule type: DNA
A;Residues: 1-233 <NED>
A;Cross-references: UNIPROT:P01375; UNIPARC:UPI000000D745; GB:X02910; GB:X02159; NID:g3
R;Iris, F.J.M.; Bougueleret, L.; Prieur, S.; Caterina, D.; Primas, G.; Perrot, V.; Jurk
Nature Genet. 3, 137-145, 1993
A;Title: Dense Alu clustering and a potential new member of the NFkappaB family within
A;Reference number: S36152; MUID:93272029; PMID:8499947
A;Accession: S36153
A;Status: nucleic acid sequence not shown; translation not shown
A;Molecule type: DNA
A;Residues: 1-233 <IRI>
A;Cross-references: UNIPARC:UPI000000D745; EMBL:Z15026; NID:g37211; PIDN:CAA78745.1; PI
A;Note: the nucleotide sequence was submitted to the EMBL Data Library, August 1992
R;Pennica, D.; Nedwin, G.E.; Hayflick, J.S.; Seeburg, P.H.; Derynck, R.; Palladino, M.A
Nature 312, 724-729, 1984
A;Title: Human tumour necrosis factor: precursor structure, expression and homology to
A;Reference number: A93351; MUID:85086244; PMID:6392892
A;Accession: A93351
A;Molecule type: mRNA
A;Residues: 1-233 <PEN>
A;Cross-references: UNIPARC:UPI000000D745; GB:X02910; GB:X02159; NID:g37209; PIDN:CAA26
A;Note: this protein was isolated from the monocyte-like cell line HL-60 from a promyel
R;Wang, A.M.; Creasey, A.A.; Ladner, M.B.; Lin, L.S.; Strickler, J.; Van Arsdell, J.N.;
Science 228, 149-154, 1985
A;Title: Molecular cloning of the complementary DNA for human tumor necrosis factor.
A;Reference number: A44189; MUID:85142190; PMID:3856324
A;Accession: A44189
A;Molecule type: mRNA
A;Residues: 1-62,'S',64-233 <WAN>
A;Cross-references: UNIPARC:UPI000002FB8A; GB:M10988; NID:g339737; PIDN:AAA61198.1; PID
R;Fukuda, S.; Ando, S.; Sanou, O.; Taniai, M.; Fujii, M.; Masaki, N.; Nakamura, K.I.;
Lymphokine Res. 7, 175-185, 1988
A;Title: Simultaneous production of natural human tumor necrosis factor-alpha, -beta ar
A;Reference number: A61478; MUID:88301617; PMID:2841543
A;Accession: B61478
A;Molecule type: protein
A;Residues: 83-102;109-119;121-128,'X',130-131;142-144,'X',146,'XXX',150-152;159-174;18
A;Cross-references: UNIPARC:UPI00001735C7; UNIPARC:UPI00001735C8; UNIPARC:UPI00001735C9
R;Marmenout, A.; Fransen, L.; Tavernier, J.; Van Der Heyden, J.; Tizard, R.; Kawashima,
Eur. J. Biochem. 152, 515-522, 1985

A;Title: Molecular cloning and expression of human tumor necrosis factor and comparison
A;Reference number: I53311; MUID:86030296; PMID:3932069
A;Accession: I53311
A;Status: translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-233 <MAR>
A;Cross-references: UNIPARC:UPI000000D745; GB:M26331; NID:g339763; PIDN:AAA36758.1; PID:
A;Experimental source: U-937 cells
R;Takakura-Yamamoto, R.; Yamamoto, S.; Fukuda, S.; Kurimoto, M.
Eur. J. Biochem. 235, 431-437, 1996
A;Title: O-Glycosylated species of natural human tumor-necrosis factor-alpha.
A;Reference number: S62610; MUID:96202967; PMID:8631363
A;Accession: S62610
A;Molecule type: protein
A;Residues: 77-99 <TAK>
A;Cross-references: UNIPARC:UPI00001735CD
R;D'Alfonso, S.; Richiardi, P.M.
Immunogenetics 39, 150-154, 1994
A;Title: A polymorphic variation in a putative regulation box of the TNFA promoter regio
A;Reference number: I54522; MUID:94102809; PMID:7903959
A;Accession: I54522
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-8 <DAL>
A;Cross-references: UNIPARC:UPI00001735CE; GB:S68530; NID:g544751
R;Stevenson, F.T.; Bursten, S.L.; Locksley, R.M.; Lovett, D.H.
J. Exp. Med. 176, 1053-1062, 1992
A;Title: Myristyl acylation of the tumor necrosis factor alpha precursor on specific lys
A;Reference number: A59163; MUID:93018820; PMID:1402651
A;Contents: annotation; identification of myristylated lysines
R;Aggarwal, B.B.; Kohr, W.J.; Hass, P.E.; Moffat, B.; Spencer, S.A.; Henzel, W.J.; Bring
J. Biol. Chem. 260, 2345-2354, 1985
A;Title: Human tumor necrosis factor. Production, purification, and characterization.
A;Reference number: A92511; MUID:85130974; PMID:3871770
A;Contents: annotation; disulfide bond
C;Comment: Secreted from mitogen-activated macrophages within 4-24 hours after induction
out detriment to normal cells. It can also act synergistically with interferon gamma to
C;Comment: TNF-alpha and -beta (lymphotoxin) are the products of different genes closely
ut are produced by different cell types and have different induction kinetics.
C;Genetics:
A;Gene: GDB:TNF; TNFA
A;Cross-references: GDB:120441; OMIM:191160
A;Map position: 6p21.3-6p21.3
A;Introns: 62/3; 78/1; 94/1
C;Complex: homotrimer
C;Superfamily: tumor necrosis factor
C;Keywords: cytokine; cytotoxin; glycoprotein; homotrimer; lipoprotein; lymphokine; macr
F;1-76/Domain: propeptide #status predicted <PRO>
F;77-233/Product: tumor necrosis factor #status experimental <MAT>
F;19,20/Binding site: myristate (Lys) (covalent) #status experimental
F;81/Binding site: carbohydrate (Ser) (covalent) (partial) #status experimental
F;145-177/Disulfide bonds: #status experimental

Query Match 95.7%; Score 779; DB 1; Length 233;
Best Local Similarity 96.2%; Pred. No. 4.9e-72;
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

Qy 1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||||
Db 77 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 136

Qy 61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
|||| |||||||||||||||||||||| |||||||:||||||||||||| ||||||||
Db 137 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 196

Qy 121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
||||||| ||||||||||||||||||||||||||||||
Db 197 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 233

RESULT 2
S22052
tumor necrosis factor alpha precursor - baboon
C;Species: Papio sp. (baboon)
C;Date: 10-Sep-1999 #sequence_revision 10-Sep-1999 #text_change 09-Jul-2004
C;Accession: S22052
R;Sanjanwala, M.; Edwards, A.
submitted to the EMBL Data Library, September 1991
A;Description: Baboon Tumor Necrosis Factor Derived from Sequences of Genomic DNA.
A;Reference number: S22052
A;Accession: S22052
A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-233 <SAN>
A;Cross-references: UNIPROT:P33620; UNIPARC:UPI00001370C4; EMBL:X62141; NID:g38159; PIDN
C;Genetics:
A;Introns: 62/3; 78/1; 94/1
C;Superfamily: tumor necrosis factor
C;Keywords: glycoprotein; lipoprotein; myristylation; transmembrane protein
F;19,20/Binding site: myristate (Lys) (covalent) #status predicted
F;81/Binding site: carbohydrate (Ser) (covalent) #status predicted
F;145-177/Disulfide bonds: #status predicted

Query Match 94.8%; Score 772; DB 1; Length 233;
Best Local Similarity 95.5%; Pred. No. 2.5e-71;
Matches 150; Conservative 1; Mismatches 6; Indels 0; Gaps 0;

Qy 1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||||
Db 77 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 136

Qy 61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
|||| |||||||||||||||||||||| |||||||:||||||||||||| ||||||||
Db 137 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 196

Qy 121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
||||||| ||||||||||||||||||||||||||||||
Db 197 GGVFQLEKGDRLSAEINLPDYLDFAESGQVYFGIIAL 233

RESULT 3
S11688
tumor necrosis factor alpha precursor - cat
C;Species: Felis silvestris catus (domestic cat)
C;Date: 21-Nov-1993 #sequence_revision 10-Nov-1995 #text_change 09-Jul-2004
C;Accession: S11688
R;McGraw, R.A.; Coffee, B.W.; Otto, C.M.; Drews, R.T.; Rawlings, C.A.
Nucleic Acids Res. 18, 5563, 1990
A;Title: Gene sequence of feline tumor necrosis factor alpha.
A;Reference number: S11688; MUID:91016860; PMID:2216740
A;Accession: S11688
A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-233 <MCG>
A;Cross-references: UNIPROT:P19101; UNIPARC:UPI00001370BE; EMBL:X54000; NID:g1084; PIDN:
C;Genetics:
A;Introns: 62/3; 78/1; 94/1
C;Superfamily: tumor necrosis factor
C;Keywords: glycoprotein; lipoprotein; myristylation; transmembrane protein
F;19,20/Binding site: myristate (Lys) (covalent) #status predicted
F;81/Binding site: carbohydrate (Ser) (covalent) #status predicted
F;145-177/Disulfide bonds: #status predicted

Query Match 87.5%; Score 712; DB 2; Length 233;
Best Local Similarity 88.5%; Pred. No. 3.4e-65;
Matches 139; Conservative 6; Mismatches 12; Indels 0; Gaps 0;

Qy 1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
:||||||||| |||||||||:|||||| |:||||||||||||| |||| |||:|||||||
Db 77 LRSSSRTPSDKPVAHVVANPEAEGQLQRLSRRANALLANGVELTDNQLKVPSDGLYLIYS 136

Qy 61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
||||:||||||||||||| ||| |||||| |||||||:||||||||||||| ||||||||
Db 137 QVLFTGQGCPSTHVLLTHAISRFAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 196

Qy 121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157

```
              ||||||| ||||| ||| | ||||||||||||||||||
Db        197 GGVFQLEKGDRLSTEINLPAYLDFAESGQVYFGIIAL 233


RESULT 4
JQ1344
tumor necrosis factor alpha precursor - horse
N;Alternate names: cachectin; TNF alpha
C;Species: Equus caballus (domestic horse)
C;Date: 10-Sep-1999 #sequence_revision 10-Sep-1999 #text_change 09-Jul-2004
C;Accession: JQ1344
R;Su, X.; Morris, D.D.; McGraw, R.A.
Gene 107, 319-321, 1991
A;Title: Cloning and characterization of gene TNF alpha encoding equine tumor necrosis f
A;Reference number: JQ1344; MUID:92084125; PMID:1748301
A;Accession: JQ1344
A;Molecule type: DNA
A;Residues: 1-234 <SUX>
A;Cross-references: UNIPROT:P29553; UNIPARC:UPI00001370BF; GB:M64087; NID:g164244; PIDN:
C;Comment: This protein is an important proximal mediator of endotoxemia.
C;Genetics:
A;Gene: TNF-alpha
A;Introns: 62/3; 79/1; 95/1
C;Superfamily: tumor necrosis factor
C;Keywords: cytokine; cytotoxin; glycoprotein; lipoprotein; lymphokine; macrophage; memb
F;78-234/Product: tumor necrosis factor alpha #status predicted <TUM>
F;19,20/Binding site: myristate (Lys) (covalent) #status predicted
F;82/Binding site: carbohydrate (Ser) (covalent) #status predicted
F;146-178/Disulfide bonds: #status predicted

  Query Match             85.6%;  Score 697;  DB 1;  Length 234;
  Best Local Similarity   85.4%;  Pred. No. 1.2e-63;
  Matches  134;  Conservative   11;  Mismatches   12;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              :|||||||||| ||||||||||||||||||: ||||||||||:| ||||||| :|||||||
Db         78 LRSSSRTPSDKPVAHVVANPQAEGQLQWLSGRANALLANGVKLTDNQLVVPLDGLYLIYS 137

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              |||| ||||||||||||||||:|||| : |||||||:|||  |:|| ||| ||||||||
Db        138 QVLFKGQGCPSTHVLLTHTISRLAVSYPSKVNLLSAIKSPCHTESPEQAEAKPWYEPIYL 197

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||:|||||||:|:||||||||||||||||
Db        198 GGVFQLEKGDQLSAEINQPNYLDFAESGQVYFGIIAL 234


RESULT 5
S12606
tumor necrosis factor alpha precursor - pig
C;Species: Sus scrofa domestica (domestic pig)
C;Date: 10-Sep-1999 #sequence_revision 10-Sep-1999 #text_change 09-Jul-2004
C;Accession: S12606; S17290; S18965; I46659
R;Drews, R.T.; Coffee, B.W.; Prestwood, A.K.; McGraw, R.A.
Nucleic Acids Res. 18, 5564, 1990
A;Title: Gene sequence of porcine tumor necrosis factor alpha.
A;Reference number: S12606; MUID:91016861; PMID:2216741
A;Accession: S12606
A;Molecule type: DNA
A;Residues: 1-232 <DRE>
A;Cross-references: UNIPROT:P23563; UNIPARC:UPI00001370C6; EMBL:X54001; NID:g2135; PIDN:
R;Kuhnert, P.; Wuethrich, C.; Peterhans, E.; Pauli, U.
Gene 102, 171-178, 1991
A;Title: The porcine tumor necrosis factor-encoding genes: sequence and comparative anal
A;Reference number: S17289; MUID:91340150; PMID:1874444
A;Accession: S17290
A;Molecule type: DNA
A;Residues: 1-232 <KUH>
A;Cross-references: UNIPARC:UPI00001370C6; EMBL:X54859; NID:g2132; PIDN:CAA38639.1; PID:
A;Note: the authors translated the codon GAG for residue 202 as Gly
R;Choi, C.S.; Molitor, T.W.; Lin, G.F.; Murtaugh, M.P.
submitted to the EMBL Data Library, January 1991
A;Description: Complete nucleotide sequence of a cDNA encoding porcine tumor necrosis fa
A;Reference number: S18965
A;Accession: S18965
A;Molecule type: mRNA
A;Residues: 1-232 <CHO>
A;Cross-references: UNIPARC:UPI00001370C6; EMBL:X57321; NID:g2137; PIDN:CAA40591.1; PID
R;Pauli, U.; Beutler, B.; Peterhans, E.
Gene 81, 185-191, 1989
A;Title: Porcine tumor necrosis factor alpha: Cloning with the polymerase chain reactio
A;Reference number: I46659; MUID:90034181; PMID:2478420
A;Accession: I46659
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: mRNA
A;Residues: 44-232 <PAU>
A;Cross-references: UNIPARC:UPI000016C6F7; GB:M29079; NID:g164694; PIDN:AAA31128.1; PID
C;Genetics:
A;Introns: 62/3; 78/1; 93/1
C;Superfamily: tumor necrosis factor
C;Keywords: cytokine; cytotoxin; glycoprotein; lipoprotein; lymphokine; macrophage; myr
F;1-77/Domain: propeptide #status predicted <PRO>
F;78-232/Product: tumor necrosis factor alpha #status predicted <MAT>
F;19,20/Binding site: myristate (Lys) (covalent) #status predicted
F;81/Binding site: carbohydrate (Ser) (covalent) #status predicted
F;144-176/Disulfide bonds: #status predicted

  Query Match             83.2%;  Score 677.5;  DB 1;  Length 232;
  Best Local Similarity   85.4%;  Pred. No. 1.1e-61;
  Matches  134;  Conservative   10;  Mismatches   12;  Indels    1;  Gaps    1;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              :||||:| || |||||||| :||||||| :  |||||||||:|:|||||||::||||||||
Db         77 LRSSSQT-SDKPVAHVVANVKAEGQLQWQSGYANALLANGVKLKDNQLVVPTDGLYLIYS 135

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              |||| ||||||||| ||||||||||||||| |||||||:|||||||||||||| ||||||||
Db        136 QVLFRGQGCPSTNVFLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 195

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              |||||||  |||||||| ||||||||||||||||||||
Db        196 GGVFQLEKDDRLSAEINLPDYLDFAESGQVYFGIIAL 232


RESULT 6
QWMSN
tumor necrosis factor alpha precursor - mouse
N;Alternate names: cachectin; TNF alpha
C;Species: Mus musculus (house mouse)
C;Date: 31-Mar-1988 #sequence_revision 31-Mar-1988 #text_change 09-Jul-2004
C;Accession: A22908; S03791; A27303; A25164; A23127; A34251; I59058; A36696
R;Shirai, T.; Shimizu, N.; Shiojiri, S.; Horiguchi, S.; Ito, H.
DNA 7, 193-201, 1988
A;Title: Cloning and expression in Escherichia coli of the gene for mouse tumor necrosi
A;Reference number: A22908; MUID:88224564; PMID:2836146
A;Accession: A22908
A;Molecule type: DNA
A;Residues: 1-235 <SHI>
A;Cross-references: UNIPROT:P06804; UNIPARC:UPI0000022334; GB:M20155
R;Shakhov, A.N.; Nedospasov, S.A.
Bioorg. Khim. 13, 701-705, 1987
A;Title: Molecular cloning of the genes coding for tumor necrosis factors: complete nuc
A;Reference number: S03791; MUID:87298639; PMID:3040015
A;Accession: S03791
A;Molecule type: DNA
A;Residues: 1-235 <SHA>
A;Cross-references: UNIPARC:UPI0000022334; GB:M38296; NID:g202086; PIDN:AAA40459.1; PID
A;Note: article in Russian with English abstract
R;Semon, D.; Kawashima, E.; Jongeneel, C.V.; Shakhov, A.N.; Nedospasov, S.A.
Nucleic Acids Res. 15, 9083-9084, 1987
A;Title: Nucleotide sequence of the murine TNF locus, including the TNF-alpha-(tumor ne
A;Reference number: A93679; MUID:88067722; PMID:3684584
A;Accession: A27303
A;Molecule type: DNA
A;Residues: 1-235 <SEM>
A;Cross-references: UNIPARC:UPI0000022334; GB:Y00467; NID:g54830; PIDN:CAA68530.1; PID:
```

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R;Pennica, D.; Hayflick, J.S.; Bringman, T.S.; Palladino, M.A.; Goeddel, D.V.
Proc. Natl. Acad. Sci. U.S.A. 82, 6060-6064, 1985
A;Title: Cloning and expression in Escherichia coli of the cDNA for murine tumor necrosi
A;Reference number: A25164; MUID:85298296; PMID:3898078
A;Accession: A25164
A;Molecule type: mRNA
A;Residues: 1-235 <PEN>
A;Cross-references: UNIPARC:UPI0000022334; GB:M11731; NID:g202084; PIDN:AAA40458.1; PID:
R;Fransen, L.; Muller, R.; Marmenout, A.; Tavernier, J.; van der Heyden, J.; Kawashima,
Nucleic Acids Res. 13, 4417-4429, 1985
A;Title: Molecular cloning of mouse tumour necrosis factor cDNA and its eukaryotic expre
A;Reference number: A23127; MUID:85242112; PMID:2989794
A;Accession: A23127
A;Molecule type: mRNA
A;Residues: 1-235 <FRA>
A;Cross-references: UNIPARC:UPI0000022334; GB:X02611; NID:g54844; PIDN:CAA26457.1; PID:g
R;Cseh, K.; Beutler, B.
J. Biol. Chem. 264, 16256-16260, 1989
A;Title: Alternative cleavage of the cachectin/tumor necrosis factor propeptide results
A;Reference number: A34251; MUID:89380231; PMID:2777790
A;Accession: A34251
A;Molecule type: protein
A;Residues: 70-87 <CSE>
A;Cross-references: UNIPARC:UPI00001735CF
R;Caput, D.; Beutler, B.; Hartog, K.; Thayer, R.; Brown-Shimer, S.L.; Cerami, A.
Proc. Natl. Acad. Sci. U.S.A. 83, 1670-1674, 1986
A;Title: Identification of a common nucleotide sequence in the 3'-untranslated region of
A;Reference number: I59058; MUID:86149365; PMID:2419912
A;Accession: I59058
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: mRNA
A;Residues: 1-230,'R',232-235 <RES>
A;Cross-references: UNIPARC:UPI000016D086; GB:M13049; NID:g202082; PIDN:AAA40457.1; PID:
R;Sherry, B.; Jue, D.M.; Zentella, A.; Cerami, A.
Biochem. Biophys. Res. Commun. 173, 1072-1078, 1990
A;Title: Characterization of high molecular weight glycosylated forms of murine tumor ne
A;Reference number: A36696; MUID:91097531; PMID:2268312
A;Accession: A36696
A;Molecule type: protein
A;Residues: 80-85,'X',87-99 <SHE>
A;Cross-references: UNIPARC:UPI00001735D0
C;Genetics:
A;Introns: 62/3; 81/1; 97/1
A;Note: the first intron occurs in the 5'-untranslated region
C;Superfamily: tumor necrosis factor
C;Keywords: cytokine; cytotoxin; glycoprotein; lipoprotein; lymphokine; macrophage; memb
F;80-235/Product: tumor necrosis factor #status experimental <MAT>
F;20/Binding site: myristate (Lys) (covalent) #status predicted
F;84/Binding site: carbohydrate (Ser) (covalent) #status predicted
F;86/Binding site: carbohydrate (Asn) (covalent) #status predicted
F;148-179/Disulfide bonds: #status predicted

  Query Match             77.9%;  Score 634.5;  DB 1;  Length 235;
  Best Local Similarity   75.2%;  Pred. No. 2.9e-57;
  Matches  118;  Conservative   21;  Mismatches   17;  Indels    1;  Gaps    1;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              :||||:  || |||||||| | | ||:||::||||||||::|:|||||||::||||:||
Db         80 LRSSSQNSSDKPVAHVVANHQVEEQLEWLSQRANALLANGMDLKDNQLVVPADGLYLVYS 139

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              |||| |||||  :||||||:|| |:|||  ||||||::||| ::||||||  ||||||||
Db        140 QVLFKGQGCPD-YVLLTHTVSRFAISYQEKVNLLSAVKSPCPKDTPEGAELKPWYEPIYL 198

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||:||||:| | |||||||||||||:|||
Db        199 GGVFQLEKGDQLSAEVNLPKYLDFAESGQVYFGVIAL 235


RESULT 7
A25451
tumor necrosis factor alpha precursor - rabbit
N;Alternate names: cachectin; TNF alpha
C;Species: Oryctolagus cuniculus (domestic rabbit)
C;Date: 10-Sep-1999 #sequence_revision 10-Sep-1999 #text_change 09-Jul-2004
C;Accession: A25454; A25451; JS0727
R;Ito, H.; Yamamoto, S.; Kuroda, S.; Sakamoto, H.; Kajihara, J.; Kiyota, T.; Hayashi, H
DNA 5, 149-156, 1986
A;Title: Molecular cloning and expression in Escherichia coli of the cDNA coding for rab
A;Reference number: A25454; MUID:86219711; PMID:3519137
A;Accession: A25454
A;Molecule type: mRNA
A;Residues: 1-234 <ITO>
A;Cross-references: UNIPROT:P04924; UNIPARC:UPI000016C5C2; GB:M12845; NID:g165759; PIDN
R;Ito, H.; Shirai, T.; Yamamoto, S.; Akira, M.; Kawahara, S.; Todd, C.W.; Wallace, R.B.
DNA 5, 157-165, 1986
A;Title: Molecular cloning of the gene encoding rabbit tumor necrosis factor.
A;Reference number: A25451; MUID:86219712; PMID:3519138
A;Accession: A25451
A;Molecule type: DNA
A;Residues: 1-234 <IT2>
A;Cross-references: UNIPARC:UPI000016C5C2
A;Note: this sequence differs from that shown in having a Gln inserted between residues
R;Shakhov, A.N.; Kuprash, D.V.; Azizov, M.M.; Jongeneel, C.V.; Nedospasov, S.A.
Gene 95, 215-221, 1990
A;Title: Structural analysis of the rabbit TNF locus, containing the genes encoding TNF-
A;Reference number: JH0309; MUID:91065534; PMID:2249779
A;Accession: JS0727
A;Status: nucleic acid sequence not shown; translation not shown
A;Molecule type: DNA
A;Residues: 1-62,'Q',63-234 <SHA>
A;Cross-references: UNIPARC:UPI00001370C7; GB:M60340; GB:M35326; NID:g165754; PIDN:AAA31
C;Genetics:
A;Introns: 62/3; 80/1; 96/1
C;Superfamily: tumor necrosis factor
C;Keywords: cytokine; cytotoxin; glycoprotein; lipoprotein; lymphokine; macrophage; memb
F;1-81/Domain: propeptide #status predicted <PRO>
F;82-234/Product: tumor necrosis factor #status predicted <MAT>
F;19,20/Binding site: myristate (Lys) (covalent) #status predicted
F;83/Binding site: carbohydrate (Ser) (covalent) #status predicted
F;147-178/Disulfide bonds: #status predicted

  Query Match             77.8%;  Score 633.5;  DB 1;  Length 234;
  Best Local Similarity   78.3%;  Pred. No. 3.7e-57;
  Matches  123;  Conservative   15;  Mismatches   18;  Indels    1;  Gaps    1;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              :||:||  || |:||||||| |||||||::|||||||||::| |||||||::|||||||
Db         79 LRSASRALSDKPLAHVVANPQVEGQLQWLSQRANALLANGMKLTDNQLVVPADGLYLIYS 138

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              ||||||||| | :||||||:|| ||||   |||||||:||| ||||| ||   |||||||
Db        139 QVLFSGQGCRS-YVLLTHTVSRFAVSYPNKVNLLSAIKSPCHRETPEEAEPMAWYEPIYL 197

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||| |:|:|:||| |||||||||||||
Db        198 GGVFQLEKGDRLSTEVNQPEYLDLAESGQVYFGIIAL 234


RESULT 8
S52715
tumor necrosis factor alpha precursor - bovine (fragment)
C;Species: Bos primigenius taurus (cattle)
C;Date: 19-May-1995 #sequence_revision 21-Jul-1995 #text_change 04-Feb-2000
C;Accession: S52715
R;Mertens, B.; Gaidulis, L.
submitted to the EMBL Data Library, March 1995
A;Description: Cloning and sequence analysis of cDNAs encoding bovine CD40 ligand and bc
A;Reference number: S52715
A;Accession: S52715
A;Status: preliminary
A;Molecule type: mRNA
A;Residues: 1-185 <MER>
A;Cross-references: UNIPARC:UPI000016C282; EMBL:Z48808; NID:g755701; PIDN:CAA88743.1; PI
C;Superfamily: tumor necrosis factor
C;Keywords: glycoprotein
```

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F;33/Binding site: carbohydrate (Ser) (covalent) #status predicted
F;97-129/Disulfide bonds: #status predicted

  Query Match             77.5%;  Score 631;  DB 2;  Length 185;
  Best Local Similarity   77.7%;  Pred. No. 4.9e-57;
  Matches  122;  Conservative   15;  Mismatches   20;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              :||||:  |: |||||||:  : |||:| :  ||||:||||:| ||||||||::|||||||
Db         29 LRSSSQASSNKPVAHVVADINSPGQLRWWDSYANALMANGVKLEDNQLVVPADGLYLIYS 88

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              |||| ||||||| : |||||||||||||| ||:||||:||| ||||| ||| |||||||
Db         89 QVLFRGQGCPSTPLFLTHTISRIAVSYQTKVNILSAIKSPCHRETPEWAEAKPWYEPIYQ 148

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||| |||||:||||||||||||
Db        149 GGVFQLEKGDRLSAEINLPDYLDYAESGQVYFGIIAL 185


RESULT 9
S24642
tumor necrosis factor alpha precursor - bovine
C;Species: Bos primigenius taurus (cattle)
C;Date: 10-Sep-1999 #sequence_revision 10-Sep-1999 #text_change 09-Jul-2004
C;Accession: I46047; S24642
R;Cludts, I.; Cleuter, Y.; Kettmann, R.; Burny, A.; Droogmans, L.
Cytokine 5, 336-341, 1993
A;Title: Cloning and characterization of the tandemly arranged bovine lymphotoxin and tu
A;Reference number: I46046; MUID:94083525; PMID:8260599
A;Accession: I46047
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-233 <CL2>
A;Cross-references: UNIPROT:Q06599; UNIPARC:UPI00001370B8; EMBL:Z14137; NID:g796; PIDN:C
C;Genetics:
A;Gene: TNFA
A;Introns: 62/3; 78/1; 94/1
C;Superfamily: tumor necrosis factor
C;Keywords: glycoprotein; lipoprotein; myristylation; transmembrane protein
F;20/Binding site: myristate (Lys) (covalent) #status predicted
F;81/Binding site: carbohydrate (Ser) (covalent) #status predicted
F;145-177/Disulfide bonds: #status predicted

  Query Match             77.5%;  Score 631;  DB 1;  Length 233;
  Best Local Similarity   77.7%;  Pred. No. 6.6e-57;
  Matches  122;  Conservative   15;  Mismatches   20;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              :||||:  |: |||||||:  : |||:| :  ||||:||||:| ||||||||::|||||||
Db         77 LRSSSQASSNKPVAHVVADINSPGQLRWWDSYANALMANGVKLEDNQLVVPADGLYLIYS 136

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              |||| ||||||| : |||||||||||||| ||:||||:||| ||||| ||| |||||||
Db        137 QVLFRGQGCPSTPLFLTHTISRIAVSYQTKVNILSAIKSPCHRETPEWAEAKPWYEPIYQ 196

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||| |||||:||||||||||||
Db        197 GGVFQLEKGDRLSAEINLPDYLDYAESGQVYFGIIAL 233


RESULT 10
JH0529
tumor necrosis factor alpha precursor - sheep
N;Alternate names: cachectin; TNF alpha
C;Species: Ovis orientalis aries, Ovis ammon aries (domestic sheep)
C;Date: 10-Sep-1999 #sequence_revision 10-Sep-1999 #text_change 09-Jul-2004
C;Accession: JH0529; S48118; S13114; S20661
R;Green, I.R.; Sargan, D.R.
Gene 109, 203-210, 1991
A;Title: Sequence of the cDNA encoding ovine tumor necrosis factor-alpha: problems with
A;Reference number: JH0529; MUID:92112044; PMID:1765267
A;Accession: JH0529
A;Molecule type: mRNA
A;Residues: 1-234 <GRE>
A;Cross-references: UNIPROT:P23383; UNIPARC:UPI000002CD39; EMBL:X55152; NID:g1405; PIDN
A;Experimental source: alveolar macrophage
R;Nash, A.D.; Barcham, G.J.; Brandon, M.R.; Andrews, A.E.
Immunol. Cell Biol. 69, 273-283, 1991
A;Title: Molecular cloning, expression and characterization of ovine TNF-alpha.
A;Reference number: S48118; MUID:92155784; PMID:1786996
A;Accession: S48118
A;Status: preliminary
A;Molecule type: mRNA
A;Residues: 1-234 <NAS>
A;Cross-references: UNIPARC:UPI000002CD39; EMBL:X56756; NID:g297806; PIDN:CAA40076.1; PI
R;Young, A.J.; Hay, J.B.; Chan, J.Y.C.
Nucleic Acids Res. 18, 6723, 1990
A;Title: Primary structure of ovine tumor necrosis factor alpha cDNA.
A;Reference number: S13114; MUID:91067496; PMID:2251151
A;Accession: S13114
A;Status: preliminary
A;Molecule type: mRNA
A;Residues: 1-62,64-234 <YOU>
A;Cross-references: UNIPARC:UPI000016C4EC; EMBL:X55966; NID:g1403; PIDN:CAA39437.1; PID
A;Note: comparison with the introns of homologous sequences suggest that this is probabl
C;Superfamily: tumor necrosis factor
C;Keywords: alternative splicing; cytokine; cytotoxin; glycoprotein; lipoprotein; lymph
F;1-77/Domain: propeptide #status predicted <PRO>
F;78-234/Product: tumor necrosis factor alpha #status predicted <TUM>
F;20/Binding site: myristate (Lys) (covalent) #status predicted
F;82/Binding site: carbohydrate (Ser) (covalent) #status predicted
F;96/Binding site: carbohydrate (Asn) (covalent) #status predicted
F;146-178/Disulfide bonds: #status predicted

  Query Match             77.3%;  Score 629;  DB 1;  Length 234;
  Best Local Similarity   77.7%;  Pred. No. 1.1e-56;
  Matches  122;  Conservative   15;  Mismatches   20;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              :||||:  :: ||||||||  | |||:| :  ||||:|||||:|||||||::|||||||
Db         78 LRSSSQASNNKPVAHVVANISAPGQLRWGDSYANALMANGVELKDNQLVVPTDGLYLIYS 137

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              |||| | ||||| : |||||||||||||| ||:||||:||| ||| |||||| |||||||
Db        138 QVLFRGHGCPSTPLFLTHTISRIAVSYQTKVNILSAIKSPCHRETLEGAEAKPWYEPIYQ 197

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||| |:|||:||||||||||||
Db        198 GGVFQLEKGDRLSAEINLPEYLDYAESGQVYFGIIAL 234


RESULT 11
I54490
tumor necrosis factor alpha precursor - white-footed mouse
C;Species: Peromyscus leucopus (white-footed mouse)
C;Date: 02-Aug-1996 #sequence_revision 02-Aug-1996 #text_change 09-Jul-2004
C;Accession: I54490
R;Crew, M.D.; Filipowsky, M.E.
Immunogenetics 35, 351-353, 1992
A;Title: Sequence of the tumor necrosis factor/cachectin (TNF) gene from Peromyscus leu
A;Reference number: I54490; MUID:92218012; PMID:1348497
A;Accession: I54490
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-235 <RES>
A;Cross-references: UNIPROT:P36939; UNIPARC:UPI00001370C5; GB:M59233; NID:g202506; PIDN
C;Genetics:
A;Gene: PlTNF
A;Introns: 62/3; 81/1; 97/1
C;Superfamily: tumor necrosis factor
C;Keywords: glycoprotein; lipoprotein; myristylation
F;19,20/Binding site: myristate (Lys) (covalent) #status predicted
F;84/Binding site: carbohydrate (Ser) (covalent) #status predicted

  Query Match             77.2%;  Score 628.5;  DB 2;  Length 235;
```

```
  Best Local Similarity   75.2%;  Pred. No. 1.2e-56;
  Matches  118;  Conservative   21;  Mismatches   17;  Indels    1;  Gaps    1;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              :||||:  || |||||||| | : ||:|:| ||||||||::|:|||||:|::||||:||
Db         80 LRSSSQNSSDKPVAHVVANHQVDEQLEWLSRGANALLANGMDLKDNQLVIPADGLYLVYS 139

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              |||| |||| |::|||||:|| ||||:  |||||||:||| :|||||:|  ||||||||
Db        140 QVLFKGQGC-SSYVLLTHTVSRFAVSYEDKVNLLSAIKSPCPKETPEGSELKPWYEPIYL 198

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| |||||||:| | ||||||||||||||:|||
Db        199 GGVFQLEKGDRLSAEVNLPKYLDFAESGQVYFGVIAL 235


RESULT 12
S06192
tumor necrosis factor alpha precursor - goat (fragment)
N;Alternate names: cachectin; TNF alpha
C;Species: Capra aegagrus hircus (domestic goat)
C;Date: 28-Feb-1990 #sequence_revision 28-Feb-1990 #text_change 09-Jul-2004
C;Accession: S06192; S41867
R;Goldstein, I.M.; Henner, D.; Talhouk, A.
submitted to the EMBL Data Library, March 1989
A;Reference number: S06192
A;Accession: S06192
A;Molecule type: mRNA
A;Residues: 1-193 <GOL>
A;Cross-references: UNIPROT:P13296; UNIPARC:UPI000016C3FD; EMBL:X14828; NID:g992; PIDN:C
R;Rimstad, E.
submitted to the EMBL Data Library, January 1994
A;Reference number: S41867
A;Accession: S41867
A;Status: preliminary
A;Molecule type: mRNA
A;Residues: 36-38,'S',40-78,'A',80-88,'N',90-114,'Q',116-123,'D',125-144,'G',145-173,'L'
A;Cross-references: UNIPARC:UPI000016C3FE; EMBL:X77317; NID:g452607; PIDN:CAA54523.1; PI
C;Superfamily: tumor necrosis factor
C;Keywords: cytokine; cytotoxin; glycoprotein; lymphokine; macrophage; membrane protein
F;42/Binding site: carbohydrate (Ser) (covalent) #status predicted
F;106-138/Disulfide bonds: #status predicted

  Query Match             76.7%;  Score 624.5;  DB 2;  Length 193;
  Best Local Similarity   78.3%;  Pred. No. 2.4e-56;
  Matches  123;  Conservative   14;  Mismatches   19;  Indels    1;  Gaps    1;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              :||||:  |: ||||||||  | |||:| :  |||| ||||||:||||||::|||||||
Db         38 LRSSSQASSNKPVAHVVANISAPGQLRWGDSYANALKANGVELKDNQLVVPTDGLYLIYS 97

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              |||| | ||||| : |||||||||||||| ||:||||:||| ||||| ||| |||||||
Db         98 QVLFRGHGCPSTPLFLTHTISRIAVSYQTKVNILSAIKSPCHRETPE-AEAKPWYEPIYQ 156

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| |||||||||:|:|||:||||||||||||
Db        157 GGVFQLEKGDRLSAEINQPEYLDYAESGQVYFGIIAL 193


RESULT 13
JU0029
tumor necrosis factor alpha precursor - rat
N;Alternate names: cachectin; TNF alpha
C;Species: Rattus norvegicus (Norway rat)
C;Date: 07-Jun-1990 #sequence_revision 07-Jun-1990 #text_change 09-Jul-2004
C;Accession: JU0029; JN0868; S21674
R;Shirai, T.; Shimizu, N.; Horiguchi, S.; Ito, H.
Agric. Biol. Chem. 53, 1733-1736, 1989
A;Title: Cloning and expression in Escherichia coli of the gene for rat tumor necrosis f
A;Reference number: JU0029
A;Accession: JU0029
A;Molecule type: DNA
A;Residues: 1-235 <SHI>
A;Cross-references: UNIPROT:P16599; UNIPARC:UPI000004368F
R;Kwon, J.; Chung, I.Y.; Benveniste, E.N.
Gene 132, 227-236, 1993
A;Title: Cloning and sequence analysis of the rat tumor necrosis factor-encoding genes.
A;Reference number: JN0868; MUID:94040766; PMID:8224868
A;Accession: JN0868
A;Molecule type: DNA
A;Residues: 1-235 <KWO>
A;Cross-references: UNIPARC:UPI000004368F; GB:L00981; NID:g205253; PIDN:AAA16275.1; PID:
R;Estler, H.C.; Grewe, M.; Gaussling, R.; Pavlovic, M.; Decker, K.
Biol. Chem. Hoppe-Seyler 373, 271-281, 1992
A;Title: Rat tumor necrosis factor-alpha. Transcription in rat Kupffer cells and in vitr
A;Reference number: S21674; MUID:92329007; PMID:1627266
A;Accession: S21674
A;Molecule type: mRNA
A;Residues: 1-38,'P',40-162,'T',164-201,'S',203-235 <EST>
A;Cross-references: UNIPARC:UPI000017086D; GB:X66539; GB:S40199; NID:g395369; PIDN:CAA47
C;Comment: Tumor necrosis factor is secreted by macrophages in response to endotoxin and
C;Genetics:
A;Gene: TNF-alpha
A;Introns: 62/3; 81/1; 97/1
C;Superfamily: tumor necrosis factor
C;Keywords: cytokine; cytotoxin; glycoprotein; lipoprotein; lymphokine; macrophage; memb
F;80-235/Product: tumor necrosis factor #status predicted <MAT>
F;19,20/Binding site: myristate (Lys) (covalent) #status predicted
F;84/Binding site: carbohydrate (Ser) (covalent) #status predicted
F;86/Binding site: carbohydrate (Asn) (covalent) #status predicted
F;148-179/Disulfide bonds: #status predicted

  Query Match             76.1%;  Score 619.5;  DB 2;  Length 235;
  Best Local Similarity   74.5%;  Pred. No. 9.9e-56;
  Matches  117;  Conservative   20;  Mismatches   19;  Indels    1;  Gaps    1;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              :||||:  || |||||||| ||| ||:||::||||||||::|:|||||||::|||||||
Db         80 LRSSSQNSSDKPVAHVVANHQAEEQLEWLSQRANALLANGMDLKDNQLVVPADGLYLIYS 139

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              |||| |||||  :||||||:|| |:|||  |:|||||:||| ::|||||| |||||:||
Db        140 QVLFKGQGCPD-YVLLTHTVSRFAISYQEKVSLLSAIKSPCPKDTPEGAELKPWYEPMYL 198

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| || ||||:| | |||  ||||||||:|||
Db        199 GGVFQLEKGDLLSAEVNLPKYLDITESGQVYFGVIAL 235


RESULT 14
JH0309
tumor necrosis factor beta precursor - rabbit
N;Alternate names: lymphotoxin; TNF beta
C;Species: Oryctolagus cuniculus (domestic rabbit)
C;Date: 10-Sep-1999 #sequence_revision 10-Sep-1999 #text_change 09-Jul-2004
C;Accession: JH0309; PN0098
R;Shakhov, A.N.; Kuprash, D.V.; Azizov, M.M.; Jongeneel, C.V.; Nedospasov, S.A.
Gene 95, 215-221, 1990
A;Title: Structural analysis of the rabbit TNF locus, containing the genes encoding TNF-
A;Reference number: JH0309; MUID:91065534; PMID:2249779
A;Accession: JH0309
A;Molecule type: DNA
A;Residues: 1-197 <SH2>
A;Cross-references: UNIPROT:P10154; UNIPARC:UPI00001370CE; GB:M60340; GB:M35326; NID:g16
R;Shakhov, A.N.; Kuprash, D.V.; Turetskaya, R.L.; Azizov, M.M.; Andreyeva, A.V.; Nedospa
Mol. Biol. (Mosk.) 23, 1743-1750, 1989
A;Title: Cloning and structural analysis of the genes, coding for rabbit tumor necrosis
A;Reference number: PN0098; MUID:90220566; PMID:2633043
A;Accession: PN0098
A;Molecule type: mRNA
A;Residues: 1-197 <SHA>
A;Cross-references: UNIPARC:UPI00001370CE; GB:X55745; NID:g297167; PIDN:CAA39275.1; PID:
C;Genetics:
A;Introns: 25/3; 61/1
C;Superfamily: tumor necrosis factor
```

```
C;Keywords: cytokine; cytotoxin; glycoprotein; lymphokine; macrophage
F;1-26/Domain: signal sequence #status predicted <SIG>
F;27-197/Product: lymphotoxin #status predicted <MAT>

  Query Match             31.8%;  Score 258.5;  DB 1;  Length 197;
  Best Local Similarity   40.0%;  Pred. No. 6.4e-19;
  Matches   60;  Conservative   21;  Mismatches   58;  Indels   11;  Gaps    4;

Qy         12 PVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYSQVLFSGQGCP- 70
              | ||:| :| |:  |:|      | | :|  | :| |:||| ||| :||||:|||:||
Db         55 PAAHLVGDPSAQDSLRWRANTDRAFLRHGFSLSNNSLLVPSSGLYFVYSQVVFSGEGCSP 114

Qy         71 ---STHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYLGGVFQLE 127
                 | : | | :   :  |   | |||| :| |    |:|    ||   :| | || |
Db        115 KAVPTPLYLAHEVQLFSSQYSFHVPLLSAQKSVC--PGPQG----PWVRSVYQGAVFLLT 168

Qy        128 PGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
               ||:||   :   :|  : |  |:||  ||
Db        169 QGDQLSTHTDGIAHLLLSPS-SVFFGAFAL 197


RESULT 15
S24641
lymphotoxin - bovine
C;Species: Bos primigenius taurus (cattle)
C;Date: 10-Sep-1999 #sequence_revision 10-Sep-1999 #text_change 09-Jul-2004
C;Accession: I46046; S24641
R;Cludts, I.; Cleuter, Y.; Kettmann, R.; Burny, A.; Droogmans, L.
Cytokine 5, 336-341, 1993
A;Title: Cloning and characterization of the tandemly arranged bovine lymphotoxin and tu
A;Reference number: I46046; MUID:94083525; PMID:8260599
A;Accession: I46046
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-204 <CL2>
A;Cross-references: UNIPROT:Q06600; UNIPARC:UPI00001370CA; EMBL:Z14137; NID:g796; PIDN:C
C;Genetics:
A;Introns: 32/3; 68/1
C;Superfamily: tumor necrosis factor

  Query Match             30.8%;  Score 250.5;  DB 1;  Length 204;
  Best Local Similarity   38.7%;  Pred. No. 4.4e-18;
  Matches   58;  Conservative   22;  Mismatches   59;  Indels   11;  Gaps    4;

Qy         12 PVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYSQVLFSGQGC-- 69
              | ||:| :|  :  |:|      | | :|  | :| |:||: ||| :||||:|||:||
Db         62 PAAHLVGDPSTQDSLRWRANTDRAFLRHGFSLSNNSLLVPTSGLYFVYSQVVFSGRGCFP 121

Qy         70 --PSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYLGGVFQLE 127
                 | : | | :   :  |   | |||| :| |    |:|    ||   :| | || |
Db        122 RATPTPLYLAHEVQLFSPQYPFHVPLLSAQKSVC--PGPQG----PWVRSVYQGAVFLLT 175

Qy        128 PGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
               ||:||   :   :|  : |  |:||  ||
Db        176 RGDQLSTHTDGISHLLLSPS-SVFFGAFAL 204


Search completed: May  5, 2006, 11:27:50
Job time : 18 secs
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OM protein - protein search, using sw model

Run on: May 5, 2006, 11:21:53 ; Search time 53.5 Seconds
(without alignments)
2070.429 Million cell updates/sec

Title: US-10-668-178-13
Perfect score: 814
Sequence: 1 VRSSSRTPSDMPVAHVVANP.....RPDYLDFAESGQVYFGIIAL 157

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 2166443 seqs, 705528306 residues

Total number of hits satisfying chosen parameters: 2166443

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : UniProt_05.80:*
1: uniprot_sprot:*
2: uniprot_trembl:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	779	95.7	233	1	TNFA_HUMAN	P01375 homo sapien
2	779	95.7	233	2	Q5STB3_HUMAN	Q5stb3 homo sapien
3	772	94.8	233	1	TNFA_PAPSP	P33620 papio sp. (
4	770	94.6	232	1	TNFA_PANTR	Q8hzd9 pan troglod
5	761	93.5	233	1	TNFA_MACMU	P48094 macaca mula
6	758	93.1	233	1	TNFA_MACFA	P79337 macaca fasc
7	757	93.0	233	1	TNFA_PAPHU	O77510 papio hamad
8	754	92.6	233	1	TNFA_PAPAN	P59695 papio anubi
9	744	91.4	149	2	O97543_AOTNA	O97543 aotus nancy
10	738	90.7	233	1	TNFA_CANFA	P51742 canis famil
11	731	89.8	233	1	TNFA_FELCA	P19101 felis silve
12	708	87.0	233	1	TNFA_SAISC	Q8mkg8 saimiri sci
13	702	86.2	149	2	O97538_AOTVO	O97538 aotus vocif
14	702	86.2	149	2	Q9TTG8_AOTNI	Q9ttg8 aotus nigri
15	697	85.6	234	1	TNFA_HORSE	P29553 equus cabal
16	691	84.9	217	2	Q9BEG0_CYCDI	Q9beg0 cyclopes di
17	687	84.4	217	2	Q9BEG1_BRATR	Q9beg1 bradypus tr
18	679	83.4	233	1	TNFA_DELLE	Q8wnr1 delphinapte
19	677.5	83.2	232	1	TNFA_PIG	P23563 sus scrofa
20	661	81.2	233	1	TNFA_TURTR	Q9bea1 tursiops tr
21	652	80.1	217	2	Q9BEF4_CABUN	Q9bef4 cabassous u
22	649	79.7	138	2	Q9TTG7_AOTLE	Q9ttg7 aotus lemur
23	641	78.7	234	1	TNFA_CAPHI	P13296 capra hircu
24	638	78.4	234	2	Q53ZM5_CAPHI	Q53zm5 capra hircu
25	637.5	78.3	234	1	TNFA_CAVPO	P51435 cavia porce
26	635	78.0	216	2	Q9BEC4_TALEU	Q9bec4 talpa europ
27	634.5	77.9	235	1	TNFA_MOUSE	P06804 mus musculu
28	633.5	77.8	235	1	TNFA_RABIT	P04924 oryctolagus
29	633	77.8	234	2	Q539C2_TUPTA	Q539c2 tupaia tana
30	632	77.6	229	1	TNFA_CEREL	P51743 cervus elap
31	631	77.5	233	1	TNFA_BOVIN	Q06599 bos taurus
32	631	77.5	233	1	TNFA_BUBBU	P59693 bubalus bub
33	631	77.5	234	1	TNFA_BOSIN	P59684 bos indicus
34	629	77.3	234	1	TNFA_SHEEP	P23383 ovis aries
35	628.5	77.2	235	1	TNFA_PERLE	P36939 peromyscus
36	623.5	76.6	235	2	Q5W9H9_MERUN	Q5w9h9 meriones un
37	622.5	76.5	232	2	Q80XA4_PERMA	Q80xa4 peromyscus
38	619.5	76.1	235	1	TNFA_RAT	P16599 rattus norv
39	619.5	76.1	235	2	Q6EEI1_RAT	Q6eei1 rattus norv
40	617	75.8	233	1	TNFA_CAMBA	Q75n23 camelus bac
41	617	75.8	233	1	TNFA_LAMGL	P59694 lama glama
42	611.5	75.1	156	2	Q91ZL4_SIGHI	Q91zl4 sigmodon hi
43	604.5	74.3	233	1	TNFA_MARMO	O35734 marmota mon
44	604.5	74.3	233	2	Q6X658_MARMO	Q6x658 marmota mon
45	601.5	73.9	216	2	Q9BEC9_OCHPR	Q9bec9 ochotona pr

ALIGNMENTS

RESULT 1
TNFA_HUMAN
ID TNFA_HUMAN STANDARD; PRT; 233 AA.
AC P01375; O43647; Q9P1Q2; Q9UIV3;
DT 21-JUL-1986 (Rel. 01, Created)
DT 21-JUL-1986 (Rel. 01, Last sequence update)
DT 13-SEP-2005 (Rel. 48, Last annotation update)
DE Tumor necrosis factor precursor (TNF-alpha) (Tumor necrosis factor
DE ligand superfamily member 2) (TNF-a) (Cachectin) [Contains: Tumor
DE necrosis factor, membrane form; Tumor necrosis factor, soluble form].
GN Name=TNF; Synonyms=TNFA, TNFSF2;
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini; Hominidae;
OC Homo.
OX NCBI_TaxID=9606;
RN [1]
RP NUCLEOTIDE SEQUENCE.
RX MEDLINE=87217060; PubMed=3555974;
RA Nedospasov S.A., Shakhov A.N., Turetskaya R.L., Mett V.A.,
RA Azizov M.M., Georgiev G.P., Korobko V.G., Dobrynin V.N.,
RA Filippov S.A., Bystrov N.S., Boldyreva E.F., Chuvpilo S.A.,
RA Chumakov A.M., Shingarova L.N., Ovchinnikov Y.A.;
RT "Tandem arrangement of genes coding for tumor necrosis factor (TNF-
RT alpha) and lymphotoxin (TNF-beta) in the human genome.";
RL Cold Spring Harb. Symp. Quant. Biol. 51:611-624(1986).
RN [2]
RP NUCLEOTIDE SEQUENCE.
RX MEDLINE=85086244; PubMed=6392892;
RA Pennica D., Nedwin G.E., Hayflick J.S., Seeburg P.H., Derynck R.,
RA Palladino M.A., Kohr W.J., Aggarwal B.B., Goeddel D.V.;
RT "Human tumour necrosis factor: precursor structure, expression and
RT homology to lymphotoxin.";
RL Nature 312:724-729(1984).
RN [3]
RP NUCLEOTIDE SEQUENCE.
RX MEDLINE=85137898; PubMed=3883195;
RA Shirai T., Yamaguchi H., Ito H., Todd C.W., Wallace R.B.;
RT "Cloning and expression in Escherichia coli of the gene for human
RT tumour necrosis factor.";
RL Nature 313:803-806(1985).
RN [4]
RP NUCLEOTIDE SEQUENCE.
RX MEDLINE=86016093; PubMed=2995927;
RA Nedwin G.E., Naylor S.L., Sakaguchi A.Y., Smith D.H.,
RA Jarrett-Nedwin J., Pennica D., Goeddel D.V., Gray P.W.;
RT "Human lymphotoxin and tumor necrosis factor genes: structure,
RT homology and chromosomal localization.";
RL Nucleic Acids Res. 13:6361-6373(1985).
RN [5]
RP NUCLEOTIDE SEQUENCE.
RX MEDLINE=85142190; PubMed=3856324;
RA Wang A.M., Creasey A.A., Ladner M.B., Lin L.S., Strickler J.,
RA van Arsdell J.N., Yamamoto R., Mark D.F.;

RT "Molecular cloning of the complementary DNA for human tumor necrosis
RT factor.";
RL Science 228:149-154(1985).
RN [6]
RP NUCLEOTIDE SEQUENCE.
RX MEDLINE=86030296; PubMed=3932069;
RA Marmenout A., Fransen L., Tavernier J., van der Heyden J., Tizard R.,
RA Kawashima E., Shaw A., Johnson M.J., Semon D., Mueller R.,
RA Ruysschaert M.R., van Vliet A., Fiers W.;
RT "Molecular cloning and expression of human tumor necrosis factor and
RT comparison with mouse tumor necrosis factor.";
RL Eur. J. Biochem. 152:515-522(1985).
RN [7]
RP NUCLEOTIDE SEQUENCE.
RX MEDLINE=93272029; PubMed=8499947;
RA Iris F.J.M., Bougueleret L., Prieur S., Caterina D., Primas G.,
RA Perrot V., Jurka J., Rodriguez-Tome P., Claverie J.-M., Dausset J.,
RA Cohen D.;
RT "Dense Alu clustering and a potential new member of the NF kappa B
RT family within a 90 kilobase HLA class III segment.";
RL Nat. Genet. 3:137-145(1993).
RN [8]
RP NUCLEOTIDE SEQUENCE.
RX MEDLINE=99218514; PubMed=10202016;
RA Neville M.J., Campbell R.D.;
RT "A new member of the Ig superfamily and a V-ATPase G subunit are among
RT the predicted products of novel genes close to the TNF locus in the
RT human MHC.";
RL J. Immunol. 162:4745-4754(1999).
RN [9]
RP NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].
RX PubMed=14656967; DOI=10.1101/gr.1736803;
RA Xie T., Rowen L., Aguado B., Ahearn M.E., Madan A., Qin S.,
RA Campbell R.D., Hood L.;
RT "Analysis of the gene-dense major histocompatibility complex class III
RT region and its comparison to mouse.";
RL Genome Res. 13:2621-2636(2003).
RN [10]
RP NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].
RA Shiina S., Tamiya G., Oka A., Inoko H.;
RT "Homo sapiens 2,229,817bp genomic DNA of 6p21.3 HLA class I region.";
RL Submitted (SEP-1999) to the EMBL/GenBank/DDBJ databases.
RN [11]
RP NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].
RA Shiina T., Ota M., Katsuyama Y., Hashimoto N., Inoko H.;
RT "Genome diversity in HLA: a new strategy for detection of genetic
RT polymorphisms in expressed genes within the HLA class III and class I
RT regions.";
RL Submitted (JUL-2002) to the EMBL/GenBank/DDBJ databases.
RN [12]
RP NUCLEOTIDE SEQUENCE [GENOMIC DNA].
RA Rieder M.J., Carrington D.P., Chung M.-W., Lee K.L., Poel C.L., Yi Q.,
RA Nickerson D.A.;
RT "SeattleSNPs. NHLBI HL66682 program for genomic applications, UW-
RT FHCRC, Seattle, WA (URL: http://pga.gs.washington.edu).";
RL Submitted (DEC-2001) to the EMBL/GenBank/DDBJ databases.
RN [13]
RP NUCLEOTIDE SEQUENCE [GENOMIC DNA], AND VARIANT LEU-84.
RA Rieder M.J., Livingston R.J., Daniels M.R., Montoya M.A., Chung M.-W.,
RA Miyamoto K.E., Nguyen C.P., Nguyen D.A., Poel C.L., Robertson P.D.,
RA Schackwitz W.S., Sherwood J.K., Witrak L.A., Nickerson D.A.;
RT "NIEHS-SNPs, environmental genome project, NIEHS ES15478, Department
RT of Genome Sciences, Seattle, WA (URL: http://egp.gs.washington.edu).";
RL Submitted (JAN-2003) to the EMBL/GenBank/DDBJ databases.
RN [14]
RP NUCLEOTIDE SEQUENCE [LARGE SCALE MRNA].
RC TISSUE=Blood;
RX MEDLINE=22388257; PubMed=12477932; DOI=10.1073/pnas.242603899;
RA Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,
RA Klausner R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D.,
RA Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,
RA Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,
RA Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,
RA Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,
RA Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,
RA Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,
RA Bosak S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,
RA Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,
RA Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,
RA Fahey J., Helton E., Ketteman M., Madan A., Rodrigues S., Sanchez A.,
RA Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,
RA Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C.,
RA Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M.,
RA Butterfield Y.S.N., Krzywinski M.I., Skalska U., Smailus D.E.,
RA Schnerch A., Schein J.E., Jones S.J.M., Marra M.A.;
RT "Generation and initial analysis of more than 15,000 full-length human
RT and mouse cDNA sequences.";
RL Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002).
RN [15]
RP NUCLEOTIDE SEQUENCE OF 77-233.
RA Jang J.S., Kim B.E.;
RL Submitted (JAN-1998) to the EMBL/GenBank/DDBJ databases.
RN [16]
RP NUCLEOTIDE SEQUENCE OF 84-214.
RC TISSUE=Prostatic carcinoma;
RA Shao C., Yan W., Zhu F., Yue W., Chai Y., Zhao Z., Wang C.;
RL Submitted (MAR-2000) to the EMBL/GenBank/DDBJ databases.
RN [17]
RP PHOSPHORYLATION (MEMBRANE FORM).
RX MEDLINE=96170872; PubMed=8597870;
RA Pocsik E., Duda E., Wallach D.;
RT "Phosphorylation of the 26 kDa TNF precursor in monocytic cells and in
RT transfected HeLa cells.";
RL J. Inflamm. 45:152-160(1995).
RN [18]
RP PHOSPHORYLATION BY CK1, AND DEPHOSPHORYLATION.
RX MEDLINE=99221647; PubMed=10205166; DOI=10.1093/emboj/18.8.2119;
RA Watts A.D., Hunt N.H., Wanigasekara Y., Bloomfield G., Wallach D.,
RA Roufogalis B.D., Chaudhri G.;
RT "A casein kinase I motif present in the cytoplasmic domain of members
RT of the tumour necrosis factor ligand family is implicated in 'reverse
RT signalling'.";
RL EMBO J. 18:2119-2126(1999).
RN [19]
RP MUTAGENESIS.
RX MEDLINE=91184128; PubMed=2009860;
RA Ostade X.V., Tavernier J., Prange T., Fiers W.;
RT "Localization of the active site of human tumour necrosis factor
RT (hTNF) by mutational analysis.";
RL EMBO J. 10:827-836(1991).
RN [20]
RP MYRISTOYLATION.
RX MEDLINE=93018820; PubMed=1402651; DOI=10.1084/jem.176.4.1053;
RA Stevenson F.T., Bursten S.L., Locksley R.M., Lovett D.H.;
RT "Myristyl acylation of the tumor necrosis factor alpha precursor on
RT specific lysine residues.";
RL J. Exp. Med. 176:1053-1062(1992).
RN [21]
RP CLEAVAGE BY ADAM17.
RX MEDLINE=97186575; PubMed=9034191;
RA Moss M.L., Jin S.-L.C., Milla M.E., Burkhart W., Carter H.L.,
RA Chen W.-J., Clay W.C., Didsbury J.R., Hassler D., Hoffman C.R.,
RA Kost T.A., Lambert M.H., Leesnitzer M.A., McCauley P., McGeehan G.,
RA Mitchell J., Moyer M., Pahel G., Rocque W., Overton L.K., Schoenen F.,
RA Seaton T., Su J.-L., Warner J., Willard D., Becherer J.D.;
RT "Cloning of a disintegrin metalloproteinase that processes precursor
RT tumour-necrosis factor-alpha.";
RL Nature 385:733-736(1997).
RN [22]
RP X-RAY CRYSTALLOGRAPHY (2.9 ANGSTROMS).
RX MEDLINE=89159409; PubMed=2922050; DOI=10.1038/338225a0;
RA Jones E.Y., Stuart D.I., Walker N.P.;
RT "Structure of tumour necrosis factor.";
RL Nature 338:225-228(1989).
RN [23]
RP X-RAY CRYSTALLOGRAPHY (2.9 ANGSTROMS).

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RX   MEDLINE=91193276; PubMed=1964681;
RA   Jones E.Y., Stuart D.I., Walker N.P.;

  Query Match             95.7%;  Score 779;  DB 1;  Length 233;
  Best Local Similarity   96.2%;  Pred. No. 2.5e-70;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| |||||||||||||||||||||||||||||||||||||||||||||||||
Db         77 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 136

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              |||| |||||||||||||||||||||| |||||||:|||||||||||| ||||||||
Db        137 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 196

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||||||||||||||||||||||||
Db        197 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 233


RESULT 2
Q5STB3_HUMAN
ID   Q5STB3_HUMAN PRELIMINARY;      PRT;   233 AA.
AC   Q5STB3;
DT   01-FEB-2005 (TrEMBLrel. 29, Created)
DT   01-FEB-2005 (TrEMBLrel. 29, Last sequence update)
DT   13-SEP-2005 (TrEMBLrel. 31, Last annotation update)
DE   Tumor necrosis factor (TNF superfamily, member 2).
GN   Name=TNF;
GN   ORFNames=DAQB-87N14.5-001, DASS-280D8.2-001, XXbac-BCX270M2.1-001,
GN   XXbac-BPG296P20.12-001;
OS   Homo sapiens (Human).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini; Hominidae;
OC   Homo.
OX   NCBI_TaxID=9606;
RN   [1]
RP   NUCLEOTIDE SEQUENCE.
RA   Tracey A.;
RL   Submitted (MAY-2005) to the EMBL/GenBank/DDBJ databases.
DR   EMBL; AL662847; CAI17678.1; -; Genomic_DNA.
DR   EMBL; AL929587; CAI18649.1; -; Genomic_DNA.
DR   EMBL; AL662801; CAI18292.1; -; Genomic_DNA.
DR   EMBL; BX248519; CAI41940.1; -; Genomic_DNA.
DR   SMR; Q5STB3; 82-233.
DR   GO; GO:0016020; C:membrane; IEA.
DR   GO; GO:0005164; F:tumor necrosis factor receptor binding; IEA.
DR   GO; GO:0006955; P:immune response; IEA.
DR   InterPro; IPR006053; TNF_abc.
DR   InterPro; IPR002959; TNF_alpha.
DR   InterPro; IPR006052; TNF_family.
DR   Pfam; PF00229; TNF; 1.
DR   PRINTS; PR01234; TNECROSISFCT.
DR   PRINTS; PR01235; TNFALPHA.
DR   SMART; SM00207; TNF; 1.
DR   PROSITE; PS00251; TNF_1; 1.
DR   PROSITE; PS50049; TNF_2; 1.
SQ   SEQUENCE   233 AA;  25644 MW;  3DF90F96C9031FFE CRC64;

  Query Match             95.7%;  Score 779;  DB 2;  Length 233;
  Best Local Similarity   96.2%;  Pred. No. 2.5e-70;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| |||||||||||||||||||||||||||||||||||||||||||||||||
Db         77 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 136

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              |||| |||||||||||||||||||||| |||||||:|||||||||||| ||||||||
Db        137 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 196

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||||||||||||||||||||||||
Db        197 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 233


RESULT 3
TNFA_PAPSP
ID   TNFA_PAPSP     STANDARD;      PRT;   233 AA.
AC   P33620;
DT   01-FEB-1994 (Rel. 28, Created)
DT   01-FEB-1994 (Rel. 28, Last sequence update)
DT   13-SEP-2005 (Rel. 48, Last annotation update)
DE   Tumor necrosis factor precursor (TNF-alpha) (Tumor necrosis factor
DE   ligand superfamily member 2) (TNF-a) (Cachectin) [Contains: Tumor
DE   necrosis factor, membrane form; Tumor necrosis factor, soluble form].
GN   Name=TNF; Synonyms=TNFA, TNFSF2;
OS   Papio sp. (Baboon).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini;
OC   Cercopithecidae; Cercopithecinae; Papio.
OX   NCBI_TaxID=61183;
RN   [1]
RP   NUCLEOTIDE SEQUENCE.
RA   Sanjanwala M., Edwards A.;
RL   Submitted (SEP-1991) to the EMBL/GenBank/DDBJ databases.
CC   -!- FUNCTION: Cytokine that binds to TNFRSF1A/TNFR1 and
CC       TNFRSF1B/TNFBR. It is mainly secreted by macrophages and can
CC       induce cell death of certain tumor cell lines. It is potent
CC       pyrogen causing fever by direct action or by stimulation of
CC       interleukin 1 secretion and is implicated in the induction of
CC       cachexia, Under certain conditions it can stimulate cell
CC       proliferation and induce cell differentiation.
CC   -!- SUBUNIT: Homotrimer (By similarity).
CC   -!- SUBCELLULAR LOCATION: Type II membrane protein. Also exists as an
CC       extracellular soluble form (By similarity).
CC   -!- PTM: The soluble form derives from the membrane form by
CC       proteolytic processing (By similarity).
CC   -!- PTM: The membrane form, but not the soluble form, is
CC       phosphorylated on serine residues. Dephosphorylation of the
CC       membrane form occurs by binding to soluble TNFRSF1A/TNFR1 (By
CC       similarity).
CC   -!- SIMILARITY: Belongs to the tumor necrosis factor family.
CC   ---------------------------------------------------------------------
CC   This Swiss-Prot entry is copyright. It is produced through a collaboration
CC   between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC   the European Bioinformatics Institute. There are no restrictions on its
CC   use as long as its content is in no way modified and this statement is not
CC   removed.
CC   ---------------------------------------------------------------------
DR   EMBL; X62141; CAA44068.1; -; Genomic_DNA.
DR   PIR; S22052; S22052.
DR   HSSP; P01375; 1A8M.
DR   SMR; P33620; 82-233.
DR   InterPro; IPR006053; TNF_abc.
DR   InterPro; IPR002959; TNF_alpha.
DR   InterPro; IPR006052; TNF_family.
DR   InterPro; IPR003636; TNF_subf.
DR   PANTHER; PTHR11471:SF4; TNF_alpha; 1.
DR   Pfam; PF00229; TNF; 1.
DR   PRINTS; PR01234; TNECROSISFCT.
DR   PRINTS; PR01235; TNFALPHA.
DR   ProDom; PD002012; TNF_subf; 1.
DR   SMART; SM00207; TNF; 1.
DR   PROSITE; PS00251; TNF_1; 1.
DR   PROSITE; PS50049; TNF_2; 1.
KW   Cytokine; Phosphorylation; Signal-anchor; Transmembrane.
FT   CHAIN         1    233       Tumor necrosis factor, membrane form.
FT   CHAIN        77    233       Tumor necrosis factor, soluble form.
FT   TOPO_DOM      1     35       Cytoplasmic (Potential).
FT   TRANSMEM     36     56       Signal-anchor for type II membrane
FT                                protein (Potential).
FT   TOPO_DOM     57    233       Extracellular (Potential).
FT   SITE         76     77       Cleavage (by ADAM17) (By similarity).
FT   MOD_RES       2      2       Phosphoserine (by CK1) (By similarity).
FT   DISULFID    145    177       By similarity.

Db         197 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 233


RESULT 3
TNFA_PAPSP
ID   TNFA_PAPSP     STANDARD;      PRT;   233 AA.
AC   P33620;
DT   01-FEB-1994 (Rel. 28, Created)
DT   01-FEB-1994 (Rel. 28, Last sequence update)
DT   13-SEP-2005 (Rel. 48, Last annotation update)
DE   Tumor necrosis factor precursor (TNF-alpha) (Tumor necrosis factor
DE   ligand superfamily member 2) (TNF-a) (Cachectin) [Contains: Tumor
DE   necrosis factor, membrane form; Tumor necrosis factor, soluble form].
GN   Name=TNF; Synonyms=TNFA, TNFSF2;
OS   Papio sp. (Baboon).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini;
OC   Cercopithecidae; Cercopithecinae; Papio.
OX   NCBI_TaxID=61183;
RN   [1]
RP   NUCLEOTIDE SEQUENCE.
RA   Sanjanwala M., Edwards A.;
RL   Submitted (SEP-1991) to the EMBL/GenBank/DDBJ databases.
CC   -!- FUNCTION: Cytokine that binds to TNFRSF1A/TNFR1 and
CC       TNFRSF1B/TNFBR. It is mainly secreted by macrophages and can
CC       induce cell death of certain tumor cell lines. It is potent
CC       pyrogen causing fever by direct action or by stimulation of
CC       interleukin 1 secretion and is implicated in the induction of
CC       cachexia, Under certain conditions it can stimulate cell
CC       proliferation and induce cell differentiation.
CC   -!- SUBUNIT: Homotrimer (By similarity).
CC   -!- SUBCELLULAR LOCATION: Type II membrane protein. Also exists as an
CC       extracellular soluble form (By similarity).
CC   -!- PTM: The soluble form derives from the membrane form by
CC       proteolytic processing (By similarity).
CC   -!- PTM: The membrane form, but not the soluble form, is
CC       phosphorylated on serine residues. Dephosphorylation of the
CC       membrane form occurs by binding to soluble TNFRSF1A/TNFR1 (By
CC       similarity).
CC   -!- SIMILARITY: Belongs to the tumor necrosis factor family.
CC   ---------------------------------------------------------------------
CC   This Swiss-Prot entry is copyright. It is produced through a collaboration
CC   between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC   the European Bioinformatics Institute. There are no restrictions on its
CC   use as long as its content is in no way modified and this statement is not
CC   removed.
CC   ---------------------------------------------------------------------
DR   EMBL; X62141; CAA44068.1; -; Genomic_DNA.
DR   PIR; S22052; S22052.
DR   HSSP; P01375; 1A8M.
DR   SMR; P33620; 82-233.
DR   InterPro; IPR006053; TNF_abc.
DR   InterPro; IPR002959; TNF_alpha.
DR   InterPro; IPR006052; TNF_family.
DR   InterPro; IPR003636; TNF_subf.
DR   PANTHER; PTHR11471:SF4; TNF_alpha; 1.
DR   Pfam; PF00229; TNF; 1.
DR   PRINTS; PR01234; TNECROSISFCT.
DR   PRINTS; PR01235; TNFALPHA.
DR   ProDom; PD002012; TNF_subf; 1.
DR   SMART; SM00207; TNF; 1.
DR   PROSITE; PS00251; TNF_1; 1.
DR   PROSITE; PS50049; TNF_2; 1.
KW   Cytokine; Phosphorylation; Signal-anchor; Transmembrane.
FT   CHAIN         1    233       Tumor necrosis factor, membrane form.
FT   CHAIN        77    233       Tumor necrosis factor, soluble form.
FT   TOPO_DOM      1     35       Cytoplasmic (Potential).
FT   TRANSMEM     36     56       Signal-anchor for type II membrane
FT                                protein (Potential).
FT   TOPO_DOM     57    233       Extracellular (Potential).
FT   SITE         76     77       Cleavage (by ADAM17) (By similarity).
FT   MOD_RES       2      2       Phosphoserine (by CK1) (By similarity).
FT   DISULFID    145    177       By similarity.
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SQ   SEQUENCE   233 AA;  25557 MW;  455360B48DC74173 CRC64;

  Query Match             94.8%;  Score 772;  DB 1;  Length 233;
  Best Local Similarity   95.5%;  Pred. No. 1.3e-69;
  Matches  150;  Conservative    1;  Mismatches    6;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||
Db         77 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 136

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              |||| |||||||||||||||||||||||| ||||||:||||||||||||| ||||||||
Db        137 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 196

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||| ||||||||||||||||||||
Db        197 GGVFQLEKGDRLSAEINLPDYLDFAESGQVYFGIIAL 233


RESULT 4
TNFA_PANTR
ID   TNFA_PANTR     STANDARD;      PRT;   232 AA.
AC   Q8HZD9;
DT   10-OCT-2003 (Rel. 42, Created)
DT   10-OCT-2003 (Rel. 42, Last sequence update)
DT   13-SEP-2005 (Rel. 48, Last annotation update)
DE   Tumor necrosis factor precursor (TNF-alpha) (Tumor necrosis factor
DE   ligand superfamily member 2) (TNF-a) (Cachectin) [Contains: Tumor
DE   necrosis factor, membrane form; Tumor necrosis factor, soluble form].
GN   Name=TNF; Synonyms=TNFA, TNFSF2;
OS   Pan troglodytes (Chimpanzee).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini; Hominidae;
OC   Pan.
OX   NCBI_TaxID=9598;
RN   [1]
RP   NUCLEOTIDE SEQUENCE.
RX   MEDLINE=22381002; PubMed=12493009;
RX   DOI=10.1034/j.1600-065X.2002.19008.x;
RA   Kulski J.K., Shiina T., Anzai T., Kohara S., Inoko H.;
RT   "Comparative genomic analysis of the MHC: the evolution of class I
RT   duplication blocks, diversity and complexity from shark to man.";
RL   Immunol. Rev. 190:95-122(2002).
RN   [2]
RP   NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].
RX   MEDLINE=22709134; PubMed=12799463; DOI=10.1073/pnas.1230533100;
RA   Anzai T., Shiina T., Kimura N., Yanagiya K., Kohara S., Shigenari A.,
RA   Yamagata T., Kulski J.K., Naruse T.K., Fujimori Y., Fukuzumi Y.,
RA   Yamazaki M., Tashiro H., Iwamoto C., Umehara Y., Imanishi T.,
RA   Meyer A., Ikeo K., Gojobori T., Bahram S., Inoko H.;
RT   "Comparative sequencing of human and chimpanzee MHC class I regions
RT   unveils insertions/deletions as the major path to genomic
RT   divergence.";
RL   Proc. Natl. Acad. Sci. U.S.A. 100:7708-7713(2003).
RN   [3]
RP   NUCLEOTIDE SEQUENCE OF 33-186.
RA   O'Huigin C., Tichy H., Klein J.;
RT   "Molecular evolution in higher primates; gene specific and organism
RT   specific characteristics.";
RL   Submitted (MAR-2002) to the EMBL/GenBank/DDBJ databases.
CC   -!- FUNCTION: Cytokine that binds to TNFRSF1A/TNFR1 and
CC       TNFRSF1B/TNFBR. It is mainly secreted by macrophages and can
CC       induce cell death of certain tumor cell lines. It is potent
CC       pyrogen causing fever by direct action or by stimulation of
CC       interleukin 1 secretion and is implicated in the induction of
CC       cachexia, Under certain conditions it can stimulate cell
CC       proliferation and induce cell differentiation (By similarity).
CC   -!- SUBUNIT: Homotrimer (By similarity).
CC   -!- SUBCELLULAR LOCATION: Type II membrane protein. Also exists as an
CC       extracellular soluble form (By similarity).
CC   -!- PTM: The soluble form derives from the membrane form by
CC       proteolytic processing (By similarity).
CC   -!- PTM: The membrane form, but not the soluble form, is
CC       phosphorylated on serine residues. Dephosphorylation of the
CC       membrane form occurs by binding to soluble TNFRSF1A/TNFR1 (By
CC       similarity).
CC   -!- SIMILARITY: Belongs to the tumor necrosis factor family.
CC   ---------------------------------------------------------------------
CC   This Swiss-Prot entry is copyright. It is produced through a collaboration
CC   between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC   the European Bioinformatics Institute. There are no restrictions on its
CC   use as long as its content is in no way modified and this statement is not
CC   removed.
CC   ---------------------------------------------------------------------
DR   EMBL; AB054536; BAB83882.1; -; Genomic_DNA.
DR   EMBL; BA000041; BAC78157.1; -; Genomic_DNA.
DR   EMBL; AY091964; AAM76582.1; -; Genomic_DNA.
DR   HSSP; P01375; 4TSV.
DR   SMR; Q8HZD9; 81-232.
DR   InterPro; IPR006053; TNF_abc.
DR   InterPro; IPR002959; TNF_alpha.
DR   InterPro; IPR006052; TNF_family.
DR   InterPro; IPR003636; TNF_subf.
DR   PANTHER; PTHR11471:SF4; TNF_alpha; 1.
DR   Pfam; PF00229; TNF; 1.
DR   PRINTS; PR01234; TNECROSISFCT.
DR   PRINTS; PR01235; TNFALPHA.
DR   ProDom; PD002012; TNF_subf; 1.
DR   PROSITE; PS00251; TNF_1; 1.
DR   PROSITE; PS50049; TNF_2; 1.
KW   Cytokine; Phosphorylation; Signal-anchor; Transmembrane.
FT   CHAIN         1    232       Tumor necrosis factor, membrane form (By
FT                                 similarity).
FT   CHAIN        77    232       Tumor necrosis factor, soluble form (By
FT                                 similarity).
FT   TOPO_DOM      1     34       Cytoplasmic (Potential).
FT   TRANSMEM     35     57       Signal-anchor for type II membrane
FT                                 protein (By similarity).
FT   TOPO_DOM     58    232       Extracellular (Potential).
FT   SITE         76     77       Cleavage (by ADAM17) (By similarity).
FT   MOD_RES       2      2       Phosphoserine (by CK1) (By similarity).
FT   DISULFID    144    176       By similarity.
FT   CONFLICT     77     77       G -> VR (in Ref. 3).
SQ   SEQUENCE   232 AA;  25446 MW;  E4D71B19C6AE0D03 CRC64;

  Query Match             94.6%;  Score 770;  DB 1;  Length 232;
  Best Local Similarity   96.1%;  Pred. No. 2e-69;
  Matches  149;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          3 SSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYSQV 62
              |||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||
Db         78 SSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYSQV 137

Qy         63 LFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYLGG 122
              || |||||||||||||||||||||||| |||||||:|||||||||||| ||||||||||
Db        138 LFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYLGG 197

Qy        123 VFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||| ||||||||||||||||||||||||||||||
Db        198 VFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 232


RESULT 5
TNFA_MACMU
ID   TNFA_MACMU     STANDARD;      PRT;   233 AA.
AC   P48094; Q5TM21; Q8HZD6;
DT   01-FEB-1996 (Rel. 33, Created)
DT   01-FEB-1996 (Rel. 33, Last sequence update)
DT   13-SEP-2005 (Rel. 48, Last annotation update)
DE   Tumor necrosis factor precursor (TNF-alpha) (Tumor necrosis factor
DE   ligand superfamily member 2) (TNF-a) (Cachectin) [Contains: Tumor
DE   necrosis factor, membrane form; Tumor necrosis factor, soluble form].
GN   Name=TNF; Synonyms=TNFA, TNFSF2;
OS   Macaca mulatta (Rhesus macaque).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini;
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OC   Cercopithecidae; Cercopithecinae; Macaca.
OX   NCBI_TaxID=9544;
RN   [1]
RP   NUCLEOTIDE SEQUENCE [MRNA].
RX   MEDLINE=96003435; PubMed=7561102;
RA   Villinger F.J., Brar S.S., Mayne A.E., Chikkala N., Ansari A.A.;
RT   "Comparative sequence analysis of cytokine genes from human and
RT   nonhuman primates.";
RL   J. Immunol. 155:3946-3954(1995).
RN   [2]
RP   NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].
RX   PubMed=15269276; DOI=10.1093/molbev/msh216;
RA   Kulski J.K., Anzai T., Shiina T., Inoko H.;.
RT   "Rhesus macaque class I duplicon structures, organization, and
RT   evolution within the alpha block of the major histocompatibility
RT   complex.";
RL   Mol. Biol. Evol. 21:2079-2091(2004).
RN   [3]
RP   NUCLEOTIDE SEQUENCE [GENOMIC DNA] OF 33-187.
RA   O'Huigin C., Tichy H., Klein J.;
RT   "Molecular evolution in higher primates; gene specific and organism
RT   specific characteristics.";
RL   Submitted (MAR-2002) to the EMBL/GenBank/DDBJ databases.
CC   -!- FUNCTION: Cytokine that binds to TNFRSF1A/TNFR1 and
CC       TNFRSF1B/TNFBR. It is mainly secreted by macrophages and can
CC       induce cell death of certain tumor cell lines. It is potent
CC       pyrogen causing fever by direct action or by stimulation of
CC       interleukin 1 secretion and is implicated in the induction of
CC       cachexia, Under certain conditions it can stimulate cell
CC       proliferation and induce cell differentiation.
CC   -!- SUBUNIT: Homotrimer (By similarity).
CC   -!- SUBCELLULAR LOCATION: Type II membrane protein. Also exists as an
CC       extracellular soluble form (By similarity).
CC   -!- PTM: The soluble form derives from the membrane form by
CC       proteolytic processing (By similarity).
CC   -!- PTM: The membrane form, but not the soluble form, is
CC       phosphorylated on serine residues. Dephosphorylation of the
CC       membrane form occurs by binding to soluble TNFRSF1A/TNFR1 (By
CC       similarity).
CC   -!- SIMILARITY: Belongs to the tumor necrosis factor family.
CC   ---------------------------------------------------------------------
CC   This Swiss-Prot entry is copyright. It is produced through a collaboration
CC   between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC   the European Bioinformatics Institute. There are no restrictions on its
CC   use as long as its content is in no way modified and this statement is not
CC   removed.
CC   ---------------------------------------------------------------------
DR   EMBL; U19850; AAA86712.1; -; mRNA.
DR   EMBL; AB128049; BAD69724.1; -; Genomic_DNA.
DR   EMBL; AY091967; AAM76585.1; -; Genomic_DNA.
DR   HSSP; P01375; 4TSV.
DR   SMR; P48094; 82-233.
DR   InterPro; IPR006053; TNF_abc.
DR   InterPro; IPR002959; TNF_alpha.
DR   InterPro; IPR006052; TNF_family.
DR   InterPro; IPR003636; TNF_subf.
DR   PANTHER; PTHR11471:SF4; TNF_alpha; 1.
DR   Pfam; PF00229; TNF; 1.
DR   PRINTS; PR01234; TNECROSISFCT.
DR   PRINTS; PR01235; TNFALPHA.
DR   ProDom; PD002012; TNF_subf; 1.
DR   SMART; SM00207; TNF; 1.
DR   PROSITE; PS00251; TNF_1; 1.
DR   PROSITE; PS50049; TNF_2; 1.
KW   Cytokine; Phosphorylation; Signal-anchor; Transmembrane.
FT   CHAIN         1    233       Tumor necrosis factor, membrane form.
FT   CHAIN        77    233       Tumor necrosis factor, soluble form.
FT   TOPO_DOM      1     35       Cytoplasmic (Potential).
FT   TRANSMEM     36     56       Signal-anchor for type II membrane
FT                                protein (Potential).
FT   TOPO_DOM     57    233       Extracellular (Potential).
FT   SITE         76     77       Cleavage (by ADAM17) (By similarity).
FT   MOD_RES       2      2       Phosphoserine (by CK1) (By similarity).
FT   DISULFID    145    177       By similarity.
SQ   SEQUENCE   233 AA;  25630 MW;  9F6F85050595FD59 CRC64;

  Query Match             93.5%;  Score 761;  DB 1;  Length 233;
  Best Local Similarity   94.3%;  Pred. No. 1.7e-68;
  Matches  148;  Conservative    1;  Mismatches    8;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| |||||||||||||||||||||||||||||||| |||||||||||||||
Db         77 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELTDNQLVVPSEGLYLIYS 136

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              |||| |||||| |||||||||||||||| ||||||:||||||||||||| ||||||||
Db        137 QVLFKGQGCPSNHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 196

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||| ||||||||||||||||||
Db        197 GGVFQLEKGDRLSAEINLPDYLDFAESGQVYFGIIAL 233


RESULT 6
TNFA_MACFA
ID   TNFA_MACFA     STANDARD;      PRT;   233 AA.
AC   P79337;
DT   15-JUL-1998 (Rel. 36, Created)
DT   15-JUL-1998 (Rel. 36, Last sequence update)
DT   13-SEP-2005 (Rel. 48, Last annotation update)
DE   Tumor necrosis factor precursor (TNF-alpha) (Tumor necrosis factor
DE   ligand superfamily member 2) (TNF-a) (Cachectin) [Contains: Tumor
DE   necrosis factor, membrane form; Tumor necrosis factor, soluble form].
GN   Name=TNF; Synonyms=TNFA, TNFSF2;
OS   Macaca fascicularis (Crab eating macaque) (Cynomolgus monkey).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini;
OC   Cercopithecidae; Cercopithecinae; Macaca.
OX   NCBI_TaxID=9541;
RN   [1]
RP   NUCLEOTIDE SEQUENCE [MRNA].
RC   TISSUE=Lymphocyte;
RA   Tatsumi M.;
RT   "Molecular cloning and expression of cynomolgus monkey TNF-alpha.";
RL   Submitted (JAN-1997) to the EMBL/GenBank/DDBJ databases.
CC   -!- FUNCTION: Cytokine that binds to TNFRSF1A/TNFR1 and
CC       TNFRSF1B/TNFBR. It is mainly secreted by macrophages and can
CC       induce cell death of certain tumor cell lines. It is potent
CC       pyrogen causing fever by direct action or by stimulation of
CC       interleukin 1 secretion and is implicated in the induction of
CC       cachexia, Under certain conditions it can stimulate cell
CC       proliferation and induce cell differentiation.
CC   -!- SUBUNIT: Homotrimer (By similarity).
CC   -!- SUBCELLULAR LOCATION: Type II membrane protein. Also exists as an
CC       extracellular soluble form (By similarity).
CC   -!- PTM: The soluble form derives from the membrane form by
CC       proteolytic processing (By similarity).
CC   -!- PTM: The membrane form, but not the soluble form, is
CC       phosphorylated on serine residues. Dephosphorylation of the
CC       membrane form occurs by binding to soluble TNFRSF1A/TNFR1 (By
CC       similarity).
CC   -!- SIMILARITY: Belongs to the tumor necrosis factor family.
CC   ---------------------------------------------------------------------
CC   This Swiss-Prot entry is copyright. It is produced through a collaboration
CC   between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC   the European Bioinformatics Institute. There are no restrictions on its
CC   use as long as its content is in no way modified and this statement is not
CC   removed.
CC   ---------------------------------------------------------------------
DR   EMBL; AB000513; BAA19131.1; -; mRNA.
DR   HSSP; P01375; 4TSV.
DR   SMR; P79337; 82-233.
DR   InterPro; IPR006053; TNF_abc.
DR   InterPro; IPR002959; TNF_alpha.
DR   InterPro; IPR006052; TNF_family.
DR   InterPro; IPR003636; TNF_subf.
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DR   PANTHER; PTHR11471:SF4; TNF_alpha; 1.
DR   Pfam; PF00229; TNF; 1.
DR   PRINTS; PR01234; TNECROSISFCT.
DR   PRINTS; PR01235; TNFALPHA.
DR   ProDom; PD002012; TNF_subf; 1.
DR   SMART; SM00207; TNF; 1.
DR   PROSITE; PS00251; TNF_1; 1.
DR   PROSITE; PS50049; TNF_2; 1.
KW   Cytokine; Phosphorylation; Signal-anchor; Transmembrane.
FT   CHAIN         1    233       Tumor necrosis factor, membrane form.
FT   CHAIN        77    233       Tumor necrosis factor, soluble form.
FT   TOPO_DOM      1     35       Cytoplasmic (Potential).
FT   TRANSMEM     36     56       Signal-anchor for type II membrane
FT                                protein (Potential).
FT   TOPO_DOM     57    233       Extracellular (Potential).
FT   SITE         76     77       Cleavage (by ADAM17) (By similarity).
FT   MOD_RES       2      2       Phosphoserine (by CK1) (By similarity).
FT   DISULFID    145    177       By similarity.
SQ   SEQUENCE   233 AA;  25558 MW;  6ABF2C3AB132C217 CRC64;

  Query Match             93.1%;  Score 758;  DB 1;  Length 233;
  Best Local Similarity   93.6%;  Pred. No. 3.3e-68;
  Matches  147;  Conservative    2;  Mismatches    8;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| |||||||||||||||||||||:|||||| ||||||||||||||||
Db         77 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALVANGVELTDNQLVVPSEGLYLIYS 136

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              |||| |||||| |||||||||||||||||| |||||||:|||||||||||| ||||||||
Db        137 QVLFKGQGCPSNHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 196

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||| ||||||||||||||||||||
Db        197 GGVFQLEKGDRLSAEINLPDYLDFAESGQVYFGIIAL 233


RESULT 7
TNFA_PAPHU
ID   TNFA_PAPHU     STANDARD;      PRT;   233 AA.
AC   O77510;
DT   15-DEC-1998 (Rel. 37, Created)
DT   15-DEC-1998 (Rel. 37, Last sequence update)
DT   13-SEP-2005 (Rel. 48, Last annotation update)
DE   Tumor necrosis factor precursor (TNF-alpha) (Tumor necrosis factor
DE   ligand superfamily member 2) (TNF-a) (Cachectin) [Contains: Tumor
DE   necrosis factor, membrane form; Tumor necrosis factor, soluble form].
GN   Name=TNF; Synonyms=TNFA, TNFSF2;
OS   Papio hamadryas ursinus (Chacma baboon).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini;
OC   Cercopithecidae; Cercopithecinae; Papio.
OX   NCBI_TaxID=36229;
RN   [1]
RP   NUCLEOTIDE SEQUENCE [MRNA].
RX   MEDLINE=98147379; PubMed=9488055; DOI=10.1016/S0161-5890(97)00124-7;
RA   Haudek S.B., Redl H., Schlag G., Giroir B.P.;
RT   "Complementary DNA (cDNA) sequence of baboon tumor necrosis factor
RT   alpha.";
RL   Mol. Immunol. 34:1041-1042(1997).
CC   -!- FUNCTION: Cytokine that binds to TNFRSF1A/TNFR1 and
CC       TNFRSF1B/TNFBR. It is mainly secreted by macrophages and can
CC       induce cell death of certain tumor cell lines. It is potent
CC       pyrogen causing fever by direct action or by stimulation of
CC       interleukin 1 secretion and is implicated in the induction of
CC       cachexia, Under certain conditions it can stimulate cell
CC       proliferation and induce cell differentiation.
CC   -!- SUBUNIT: Homotrimer (By similarity).
CC   -!- SUBCELLULAR LOCATION: Type II membrane protein. Also exists as an
CC       extracellular soluble form (By similarity).
CC   -!- PTM: The soluble form derives from the membrane form by
CC       proteolytic processing (By similarity).
CC   -!- PTM: The membrane form, but not the soluble form, is
CC       phosphorylated on serine residues. Dephosphorylation of the
CC       membrane form occurs by binding to soluble TNFRSF1A/TNFR1 (By
CC       similarity).
CC   -!- SIMILARITY: Belongs to the tumor necrosis factor family.
CC   ---------------------------------------------------------------------
CC   This Swiss-Prot entry is copyright. It is produced through a collaboration
CC   between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC   the European Bioinformatics Institute. There are no restrictions on its
CC   use as long as its content is in no way modified and this statement is not
CC   removed.
CC   ---------------------------------------------------------------------
DR   EMBL; AF019963; AAC31675.1; -; mRNA.
DR   HSSP; P01375; 4TSV.
DR   SMR; O77510; 82-233.
DR   InterPro; IPR006053; TNF_abc.
DR   InterPro; IPR002959; TNF_alpha.
DR   InterPro; IPR006052; TNF_family.
DR   InterPro; IPR003636; TNF_subf.
DR   PANTHER; PTHR11471:SF4; TNF_alpha; 1.
DR   Pfam; PF00229; TNF; 1.
DR   PRINTS; PR01234; TNECROSISFCT.
DR   PRINTS; PR01235; TNFALPHA.
DR   ProDom; PD002012; TNF_subf; 1.
DR   SMART; SM00207; TNF; 1.
DR   PROSITE; PS00251; TNF_1; 1.
DR   PROSITE; PS50049; TNF_2; 1.
KW   Cytokine; Phosphorylation; Signal-anchor; Transmembrane.
FT   CHAIN         1    233       Tumor necrosis factor, membrane form.
FT   CHAIN        77    233       Tumor necrosis factor, soluble form.
FT   TOPO_DOM      1     35       Cytoplasmic (Potential).
FT   TRANSMEM     36     56       Signal-anchor for type II membrane
FT                                protein (Potential).
FT   TOPO_DOM     57    233       Extracellular (Potential).
FT   SITE         76     77       Cleavage (by ADAM17) (By similarity).
FT   MOD_RES       2      2       Phosphoserine (by CK1) (By similarity).
FT   DISULFID    145    177       By similarity.
SQ   SEQUENCE   233 AA;  25658 MW;  B9403255058D4A03 CRC64;

  Query Match             93.0%;  Score 757;  DB 1;  Length 233;
  Best Local Similarity   93.6%;  Pred. No. 4.2e-68;
  Matches  147;  Conservative    1;  Mismatches    9;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| || |||||||||||||||||||||||||||| ||||||||||||||||
Db         77 VRSSSRTPSDKPVVHVVANPQAEGQLQWLNRRANALLANGVELTDNQLVVPSEGLYLIYS 136

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              |||| |||||| |||||||||||||||| |||||||:|||||||||||| ||||||||
Db        137 QVLFKGQGCPSNHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 196

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||| ||||||||||||||||||||
Db        197 GGVFQLEKGDRLSAEINLPDYLDFAESGQVYFGIIAL 233


RESULT 8
TNFA_PAPAN
ID   TNFA_PAPAN     STANDARD;      PRT;   233 AA.
AC   P59695;
DT   10-OCT-2003 (Rel. 42, Created)
DT   10-OCT-2003 (Rel. 42, Last sequence update)
DT   13-SEP-2005 (Rel. 48, Last annotation update)
DE   Tumor necrosis factor precursor (TNF-alpha) (Tumor necrosis factor
DE   ligand superfamily member 2) (TNF-a) (Cachectin) [Contains: Tumor
DE   necrosis factor, membrane form; Tumor necrosis factor, soluble form].
GN   Name=TNF; Synonyms=TNFA, TNFSF2;
OS   Papio anubis (Olive baboon).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini;
OC   Cercopithecidae; Cercopithecinae; Papio.
OX   NCBI_TaxID=9555;
RN   [1]
RP   NUCLEOTIDE SEQUENCE.
```

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RX   MEDLINE=21383618; PubMed=11491535; DOI=10.1007/s002510100322;
RA   Villinger F.J., Bostik P., Mayne A.E., King C.L., Genain C.P.,
RA   Weiss W.R., Ansari A.A.;
RT   "Cloning, sequencing, and homology analysis of nonhuman primate
RT   Fas/Fas-ligand and co-stimulatory molecules.";
RL   Immunogenetics 53:315-328(2001).
CC   -!- FUNCTION: Cytokine that binds to TNFRSF1A/TNFR1 and
CC       TNFRSF1B/TNFBR. It is mainly secreted by macrophages and can
CC       induce cell death of certain tumor cell lines. It is potent
CC       pyrogen causing fever by direct action or by stimulation of
CC       interleukin 1 secretion and is implicated in the induction of
CC       cachexia, Under certain conditions it can stimulate cell
CC       proliferation and induce cell differentiation (By similarity).
CC   -!- SUBUNIT: Homotrimer (By similarity).
CC   -!- SUBCELLULAR LOCATION: Type II membrane protein. Also exists as an
CC       extracellular soluble form (By similarity).
CC   -!- PTM: The soluble form derives from the membrane form by
CC       proteolytic processing (By similarity).
CC   -!- PTM: The membrane form, but not the soluble form, is
CC       phosphorylated on serine residues. Dephosphorylation of the
CC       membrane form occurs by binding to soluble TNFRSF1A/TNFR1 (By
CC       similarity).
CC   -!- SIMILARITY: Belongs to the tumor necrosis factor family.
CC   ---------------------------------------------------------------------
CC   This Swiss-Prot entry is copyright. It is produced through a collaboration
CC   between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC   the European Bioinformatics Institute. There are no restrictions on its
CC   use as long as its content is in no way modified and this statement is not
CC   removed.
CC   ---------------------------------------------------------------------
DR   EMBL; AY234222; AAO85335.1; -; mRNA.
DR   HSSP; P01375; 4TSV.
DR   SMR; P59695; 82-233.
DR   InterPro; IPR006053; TNF_abc.
DR   InterPro; IPR002959; TNF_alpha.
DR   InterPro; IPR006052; TNF_family.
DR   InterPro; IPR003636; TNF_subf.
DR   PANTHER; PTHR11471:SF4; TNF_alpha; 1.
DR   Pfam; PF00229; TNF; 1.
DR   PRINTS; PR01234; TNECROSISFCT.
DR   PRINTS; PR01235; TNFALPHA.
DR   ProDom; PD002012; TNF_subf; 1.
DR   SMART; SM00207; TNF; 1.
DR   PROSITE; PS00251; TNF_1; 1.
DR   PROSITE; PS50049; TNF_2; 1.
KW   Cytokine; Phosphorylation; Signal-anchor; Transmembrane.
FT   CHAIN         1    233       Tumor necrosis factor, membrane form (By
FT                                similarity).
FT   CHAIN        77    233       Tumor necrosis factor, soluble form (By
FT                                similarity).
FT   TOPO_DOM      1     34       Cytoplasmic (Potential).
FT   TRANSMEM     35     57       Signal-anchor for type II membrane
FT                                protein (By similarity).
FT   TOPO_DOM     58    233       Extracellular (Potential).
FT   SITE         76     77       Cleavage (by ADAM17) (By similarity).
FT   MOD_RES       2      2       Phosphoserine (by CK1) (By similarity).
FT   DISULFID    145    177       By similarity.
SQ   SEQUENCE   233 AA;  25736 MW;  0C477F9EB6CC9909 CRC64;

  Query Match             92.6%;  Score 754;  DB 1;  Length 233;
  Best Local Similarity   93.6%;  Pred. No. 8.4e-68;
  Matches  147;  Conservative    1;  Mismatches    9;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| |||||||||||||||||||||||||||||  ||||||||||||||||
Db         77 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVEPTDNQLVVPSEGLYLIYS 136

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              |||| |||||| |||||||||||||||| |||||||:|||||||||||| ||||||||
Db        137 QVLFKGQGCPSNHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 196

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||| ||||||||||||||||||||
Db        197 GGVFQLEKGDRLSAEINLPDYLDFAESGQVYFGIIAL 233


RESULT 9
O97543_AOTNA
ID   O97543_AOTNA PRELIMINARY;      PRT;   149 AA.
AC   O97543;
DT   01-MAY-1999 (TrEMBLrel. 10, Created)
DT   01-MAY-1999 (TrEMBLrel. 10, Last sequence update)
DT   01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
DE   Tumor necrosis factor alpha (Fragment).
GN   Name=TNF-alpha;
OS   Aotus nancymaae (Ma's night monkey).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Euarchontoglires; Primates; Platyrrhini; Cebidae;
OC   Aotinae; Aotus.
OX   NCBI_TaxID=37293;
RN   [1]
RP   NUCLEOTIDE SEQUENCE.
RX   MEDLINE=22354194; PubMed=12466897; DOI=10.1007/s00251-002-0512-2;
RA   Hernandez E.C., Suarez C.F., Mendez J.A., Echeverry S.J.,
RA   Murillo L.A., Patarroyo M.E.;
RT   "Identification, cloning, and sequencing of different cytokine genes
RT   in four species of owl monkey.";
RL   Immunogenetics 54:645-653(2002).
DR   EMBL; AF014513; AAD01539.1; -; mRNA.
DR   HSSP; P01375; 4TSV.
DR   SMR; O97543; 1-149.
DR   GO; GO:0016020; C:membrane; IEA.
DR   GO; GO:0005164; F:tumor necrosis factor receptor binding; IEA.
DR   GO; GO:0006955; P:immune response; IEA.
DR   InterPro; IPR006053; TNF_abc.
DR   InterPro; IPR002959; TNF_alpha.
DR   InterPro; IPR006052; TNF_family.
DR   InterPro; IPR003636; TNF_subf.
DR   Pfam; PF00229; TNF; 1.
DR   PRINTS; PR01234; TNECROSISFCT.
DR   PRINTS; PR01235; TNFALPHA.
DR   ProDom; PD002012; TNF_subf; 1.
DR   SMART; SM00207; TNF; 1.
DR   PROSITE; PS00251; TNF_1; 1.
DR   PROSITE; PS50049; TNF_2; 1.
FT   NON_TER       1      1
FT   NON_TER     149    149
SQ   SEQUENCE   149 AA;  16466 MW;  3C2A6140778EFA8A CRC64;

  Query Match             91.4%;  Score 744;  DB 2;  Length 149;
  Best Local Similarity   96.0%;  Pred. No. 5e-67;
  Matches  143;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          8 PSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYSQVLFSGQ 67
              ||| ||||||||||||||||||||||||||||||||||||||||||||||||||| ||
Db          1 PSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYSQVLFKGQ 60

Qy         68 GCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYLGGVFQLE 127
              |||||||||||||||||||||| |||||||:|||||||||||| ||||||||||||||
Db         61 GCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYLGGVFQLE 120

Qy        128 PGDRLSAEINRPDYLDFAESGQVYFGIIA 156
              ||||||||||||||||||||||||||||
Db        121 KGDRLSAEINRPDYLDFAESGQVYFGIIA 149


RESULT 10
TNFA_CANFA
ID   TNFA_CANFA     STANDARD;      PRT;   233 AA.
AC   P51742; Q28339;
DT   01-OCT-1996 (Rel. 34, Created)
DT   01-OCT-1996 (Rel. 34, Last sequence update)
DT   13-SEP-2005 (Rel. 48, Last annotation update)
DE   Tumor necrosis factor precursor (TNF-alpha) (Tumor necrosis factor
DE   ligand superfamily member 2) (TNF-a) (Cachectin) [Contains: Tumor
DE   necrosis factor, membrane form; Tumor necrosis factor, soluble form].
```

```
GN   Name=TNF; Synonyms=TNFA, TNFSF2;
OS   Canis familiaris (Dog).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Laurasiatheria; Carnivora; Fissipedia; Canidae;
OC   Canis.
OX   NCBI_TaxID=9615;
RN   [1]
RP   NUCLEOTIDE SEQUENCE [GENOMIC DNA].
RA   Fiers W.;
RT   "Tumour necrosis factor.";
RL   (In) Sim E. (eds.);
RL   The natural immune system humoral factors, pp.65-119, IRL Press,
RL   Oxford (1993).
RN   [2]
RP   NUCLEOTIDE SEQUENCE [MRNA].
RA   Zucker K., Lu P., Fuller L., Asthana D., Esquenazi V., Miller J.;
RT   "Cloning and expression of the cDNA for canine tumor necrosis factor-
RT   alpha in E. coli.";
RL   Lymphokine Res. 13:191-196(1994).
RN   [3]
RP   NUCLEOTIDE SEQUENCE [GENOMIC DNA].
RA   Wagner J.L., Palti Y., DiDario D.D.;
RT   "Genomic map of a portion of the canine MHC class I histocompatibility
RT   complex.";
RL   Submitted (SEP-2003) to the EMBL/GenBank/DDBJ databases.
RN   [4]
RP   NUCLEOTIDE SEQUENCE [MRNA] OF 74-205.
RC   STRAIN=Beagle; TISSUE=Blood;
RA   Gilmore W.H., Carter S.D., Bennett M., Barnes A., Kelly D.F.;
RT   "Expression of canine TNF, IL-1 and IL-6 mRNAs in peripheral blood
RT   monocytes and cell lines.";
RL   Submitted (MAR-1996) to the EMBL/GenBank/DDBJ databases.
CC   -!- FUNCTION: Cytokine that binds to TNFRSF1A/TNFR1 and
CC       TNFRSF1B/TNFBR. It is mainly secreted by macrophages and can
CC       induce cell death of certain tumor cell lines. It is potent
CC       pyrogen causing fever by direct action or by stimulation of
CC       interleukin 1 secretion and is implicated in the induction of
CC       cachexia, Under certain conditions it can stimulate cell
CC       proliferation and induce cell differentiation.
CC   -!- SUBUNIT: Homotrimer (By similarity).
CC   -!- SUBCELLULAR LOCATION: Type II membrane protein. Also exists as an
CC       extracellular soluble form (By similarity).
CC   -!- PTM: The soluble form derives from the membrane form by
CC       proteolytic processing (By similarity).
CC   -!- PTM: The membrane form, but not the soluble form, is
CC       phosphorylated on serine residues. Dephosphorylation of the
CC       membrane form occurs by binding to soluble TNFRSF1A/TNFR1 (By
CC       similarity).
CC   -!- SIMILARITY: Belongs to the tumor necrosis factor family.
CC   ---------------------------------------------------------------------
CC   This Swiss-Prot entry is copyright. It is produced through a collaboration
CC   between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC   the European Bioinformatics Institute. There are no restrictions on its
CC   use as long as its content is in no way modified and this statement is not
CC   removed.
CC   ---------------------------------------------------------------------
DR   EMBL; X94932; CAA64403.1; -; Genomic_DNA.
DR   EMBL; S74068; AAB32391.1; -; mRNA.
DR   EMBL; AY423389; AAR27885.1; -; Genomic_DNA.
DR   EMBL; Z70046; CAA93908.1; -; mRNA.
DR   HSSP; P01375; 4TSV.
DR   SMR; P51742; 82-233.
DR   Ensembl; ENSCAFG00000000517; Canis familiaris.
DR   InterPro; IPR006053; TNF_abc.
DR   InterPro; IPR002959; TNF_alpha.
DR   InterPro; IPR006052; TNF_family.
DR   InterPro; IPR003636; TNF_subf.
DR   PANTHER; PTHR11471:SF4; TNF_alpha; 1.
DR   Pfam; PF00229; TNF; 1.
DR   PRINTS; PR01234; TNECROSISFCT.
DR   PRINTS; PR01235; TNFALPHA.
DR   ProDom; PD002012; TNF_subf; 1.
DR   SMART; SM00207; TNF; 1.
DR   PROSITE; PS00251; TNF_1; 1.
DR   PROSITE; PS50049; TNF_2; 1.
KW   Cytokine; Phosphorylation; Signal-anchor; Transmembrane.
FT   CHAIN        1    233       Tumor necrosis factor, membrane form.
FT   CHAIN       77    233       Tumor necrosis factor, soluble form.
FT   TOPO_DOM     1     35       Cytoplasmic (Potential).
FT   TRANSMEM    36     56       Signal-anchor for type II membrane
FT                               protein (Potential).
FT   TOPO_DOM    57    233       Extracellular (Potential).
FT   SITE        76     77       Cleavage (by ADAM17) (By similarity).
FT   MOD_RES      2      2       Phosphoserine (by CK1) (By similarity).
FT   DISULFID   145    177       By similarity.
FT   CONFLICT    59     60       QR -> PE (in Ref. 2).
FT   CONFLICT    66     66       G -> C (in Ref. 2).
FT   CONFLICT    74     74       A -> V (in Ref. 4).
FT   CONFLICT   111    111       A -> D (in Ref. 2).
FT   CONFLICT   116    116       G -> D (in Ref. 2).
FT   CONFLICT   134    135       IY -> DS (in Ref. 2).
SQ   SEQUENCE   233 AA;  25447 MW;  7B2588FBC8B25340 CRC64;

  Query Match             90.7%;  Score 738;  DB 1;  Length 233;
  Best Local Similarity   89.8%;  Pred. No. 3.5e-66;
  Matches  141;  Conservative    7;  Mismatches    9;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |:|||||||| |||||||||:||||||||:|||||||||||||| ||||:|||:|||||||
Db         77 VKSSSRTPSDKPVAHVVANPEAEGQLQWLSRRANALLANGVELTDNQLIVPSDGLYLIYS 136

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              |||| |||||||||||||||| |||||| |||||||:|||||||||| || ||||||||
Db        137 QVLFKGQGCPSTHVLLTHTISRFAVSYQTKVNLLSAIKSPCQRETPEGTEAKPWYEPIYL 196

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||| |:||||||||||||||||||
Db        197 GGVFQLEKGDRLSAEINLPNYLDFAESGQVYFGIIAL 233


RESULT 11
TNFA_FELCA
ID   TNFA_FELCA     STANDARD;      PRT;   233 AA.
AC   P19101; Q8HYM0;
DT   01-NOV-1990 (Rel. 16, Created)
DT   10-OCT-2003 (Rel. 42, Last sequence update)
DT   13-SEP-2005 (Rel. 48, Last annotation update)
DE   Tumor necrosis factor precursor (TNF-alpha) (Tumor necrosis factor
DE   ligand superfamily member 2) (TNF-a) (Cachectin) [Contains: Tumor
DE   necrosis factor, membrane form; Tumor necrosis factor, soluble form].
GN   Name=TNF; Synonyms=TNFA, TNFSF2;
OS   Felis silvestris catus (Cat).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Laurasiatheria; Carnivora; Fissipedia; Felidae;
OC   Felinae; Felis.
OX   NCBI_TaxID=9685;
RN   [1]
RP   NUCLEOTIDE SEQUENCE.
RC   TISSUE=Blood;
RX   MEDLINE=91016860; PubMed=2216740;
RA   McGraw R.A., Coffee B.W., Otto C.M., Drews R.T., Rawlings C.A.;
RT   "Gene sequence of feline tumor necrosis factor alpha.";
RL   Nucleic Acids Res. 18:5563-5563(1990).
RN   [2]
RP   NUCLEOTIDE SEQUENCE [MRNA].
RC   TISSUE=Bone marrow;
RA   Daniel S.L., Brenner C.A., Legendre A.M., Soloman A., Rouse B.T.;
RT   "Feline cytokines TNF alpha and IL-1 beta: PCR cloning and sequencing
RT   of cDNA.";
RL   Anim. Biotechnol. 3:117-121(1992).
RN   [3]
RP   NUCLEOTIDE SEQUENCE OF 95-185.
RA   Susott E.E., Rollo W.A., Venta P.J., Ewart S.L.;
RT   "Characterization of 8 feline type I markers.";
RL   Submitted (DEC-2001) to the EMBL/GenBank/DDBJ databases.
CC   -!- FUNCTION: Cytokine that binds to TNFRSF1A/TNFR1 and
```

```
CC       TNFRSF1B/TNFBR. It is mainly secreted by macrophages and can
CC       induce cell death of certain tumor cell lines. It is potent
CC       pyrogen causing fever by direct action or by stimulation of
CC       interleukin 1 secretion and is implicated in the induction of
CC       cachexia, Under certain conditions it can stimulate cell
CC       proliferation and induce cell differentiation.
CC   -!- SUBUNIT: Homotrimer (By similarity).
CC   -!- SUBCELLULAR LOCATION: Type II membrane protein. Also exists as an
CC       extracellular soluble form (By similarity).
CC   -!- PTM: The soluble form derives from the membrane form by
CC       proteolytic processing (By similarity).
CC   -!- PTM: The membrane form, but not the soluble form, is
CC       phosphorylated on serine residues. Dephosphorylation of the
CC       membrane form occurs by binding to soluble TNFRSF1A/TNFR1 (By
CC       similarity).
CC   -!- SIMILARITY: Belongs to the tumor necrosis factor family.
CC   ---------------------------------------------------------------------
CC   This Swiss-Prot entry is copyright. It is produced through a collaboration
CC   between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC   the European Bioinformatics Institute. There are no restrictions on its
CC   use as long as its content is in no way modified and this statement is not
CC   removed.
CC   ---------------------------------------------------------------------
DR   EMBL; X54000; CAA37948.1; -; Genomic_DNA.
DR   EMBL; M92061; AAA30818.1; -; mRNA.
DR   EMBL; AF459810; AAO15590.1; -; Genomic_DNA.
DR   PIR; S11688; S11688.
DR   HSSP; P01375; 4TSV.
DR   SMR; P19101; 82-233.
DR   InterPro; IPR006053; TNF_abc.
DR   InterPro; IPR002959; TNF_alpha.
DR   InterPro; IPR006052; TNF_family.
DR   InterPro; IPR003636; TNF_subf.
DR   PANTHER; PTHR11471:SF4; TNF_alpha; 1.
DR   Pfam; PF00229; TNF; 1.
DR   PRINTS; PR01234; TNECROSISFCT.
DR   PRINTS; PR01235; TNFALPHA.
DR   ProDom; PD002012; TNF_subf; 1.
DR   SMART; SM00207; TNF; 1.
DR   PROSITE; PS00251; TNF_1; 1.
DR   PROSITE; PS50049; TNF_2; 1.
KW   Cytokine; Phosphorylation; Signal-anchor; Transmembrane.
FT   CHAIN         1    233       Tumor necrosis factor, membrane form.
FT   CHAIN        77    233       Tumor necrosis factor, soluble form.
FT   TOPO_DOM      1     35       Cytoplasmic (Potential).
FT   TRANSMEM     36     56       Signal-anchor for type II membrane
FT                                protein (Potential).
FT   TOPO_DOM     57    233       Extracellular (Potential).
FT   SITE         76     77       Cleavage (by ADAM17) (By similarity).
FT   MOD_RES       2      2       Phosphoserine (by CK1) (By similarity).
FT   DISULFID    145    177       By similarity.
FT   CONFLICT     28     28       G -> R (in Ref. 2).
FT   CONFLICT    104    104       W -> R (in Ref. 1).
FT   CONFLICT    141    141       T -> K (in Ref. 3).
FT   CONFLICT    151    151       L -> H (in Ref. 2).
FT   CONFLICT    155    155       T -> A (in Ref. 1).
FT   CONFLICT    210    210       T -> A (in Ref. 2).
SQ   SEQUENCE   233 AA;  25382 MW;  03E51823A7863510 CRC64;

  Query Match             89.8%;  Score 731;  DB 1;  Length 233;
  Best Local Similarity   89.8%;  Pred. No. 1.8e-65;
  Matches  141;  Conservative    6;  Mismatches   10;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              :|||||||||| |||||||||:||||||||:||||||||||||| |||| |||:|||||||
Db         77 LRSSSRTPSDKPVAHVVANPEAEGQLQWLSRRANALLANGVELTDNQLKVPSDGLYLIYS 136

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              ||||:|||||||||||||||| |||||| ||||||:|||||||||||| ||||||||
Db        137 QVLFTGQGCPSTHVLLTHTISRFAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 196

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||| ||| | ||||||||||||||||||
Db        197 GGVFQLEKGDRLSTEINLPAYLDFAESGQVYFGIIAL 233


RESULT 12
TNFA_SAISC
ID   TNFA_SAISC     STANDARD;      PRT;   233 AA.
AC   Q8MKG8;
DT   10-OCT-2003 (Rel. 42, Created)
DT   10-OCT-2003 (Rel. 42, Last sequence update)
DT   13-SEP-2005 (Rel. 48, Last annotation update)
DE   Tumor necrosis factor precursor (TNF-alpha) (Tumor necrosis factor
DE   ligand superfamily member 2) (TNF-a) (Cachectin) [Contains: Tumor
DE   necrosis factor, membrane form; Tumor necrosis factor, soluble form].
GN   Name=TNF; Synonyms=TNFA, TNFSF2;
OS   Saimiri sciureus (Common squirrel monkey).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Euarchontoglires; Primates; Platyrrhini; Cebidae;
OC   Cebinae; Saimiri.
OX   NCBI_TaxID=9521;
RN   [1]
RP   NUCLEOTIDE SEQUENCE.
RX   MEDLINE=21972723; PubMed=11976788; DOI=10.1007/s00251-002-0443-y;
RA   Heraud J.M., Lavergne A., Kazanji M.;
RT   "Molecular cloning, characterization, and quantification of squirrel
RT   monkey (Saimiri sciureus) Th1 and Th2 cytokines.";
RL   Immunogenetics 54:20-29(2002).
RN   [2]
RP   NUCLEOTIDE SEQUENCE.
RX   MEDLINE=22516846; PubMed=12628762; DOI=10.1016/S0165-2427(03)00018-7;
RA   Merien F., Lavergne A., Behr C., Contamin H.;
RT   "Sequencing and analysis of genomic DNA and cDNA encoding TNF-alpha in
RT   the squirrel monkey (Saimiri sciureus).";
RL   Vet. Immunol. Immunopathol. 92:37-43(2003).
CC   -!- FUNCTION: Cytokine that binds to TNFRSF1A/TNFR1 and
CC       TNFRSF1B/TNFBR. It is mainly secreted by macrophages and can
CC       induce cell death of certain tumor cell lines. It is potent
CC       pyrogen causing fever by direct action or by stimulation of
CC       interleukin 1 secretion and is implicated in the induction of
CC       cachexia, Under certain conditions it can stimulate cell
CC       proliferation and induce cell differentiation (By similarity).
CC   -!- SUBUNIT: Homotrimer (By similarity).
CC   -!- SUBCELLULAR LOCATION: Type II membrane protein. Also exists as an
CC       extracellular soluble form (By similarity).
CC   -!- PTM: The soluble form derives from the membrane form by
CC       proteolytic processing (By similarity).
CC   -!- PTM: The membrane form, but not the soluble form, is
CC       phosphorylated on serine residues. Dephosphorylation of the
CC       membrane form occurs by binding to soluble TNFRSF1A/TNFR1 (By
CC       similarity).
CC   -!- SIMILARITY: Belongs to the tumor necrosis factor family.
CC   ---------------------------------------------------------------------
CC   This Swiss-Prot entry is copyright. It is produced through a collaboration
CC   between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC   the European Bioinformatics Institute. There are no restrictions on its
CC   use as long as its content is in no way modified and this statement is not
CC   removed.
CC   ---------------------------------------------------------------------
DR   EMBL; AF294760; AAK92047.1; -; mRNA.
DR   EMBL; AJ437697; CAD27179.1; -; Genomic_DNA.
DR   EMBL; AJ437698; CAD27180.1; -; mRNA.
DR   HSSP; P01375; 4TSV.
DR   SMR; Q8MKG8; 82-233.
DR   InterPro; IPR006053; TNF_abc.
DR   InterPro; IPR002959; TNF_alpha.
DR   InterPro; IPR006052; TNF_family.
DR   InterPro; IPR003636; TNF_subf.
DR   PANTHER; PTHR11471:SF4; TNF_alpha; 1.
DR   Pfam; PF00229; TNF; 1.
DR   PRINTS; PR01234; TNECROSISFCT.
DR   PRINTS; PR01235; TNFALPHA.
DR   ProDom; PD002012; TNF_subf; 1.
DR   SMART; SM00207; TNF; 1.
DR   PROSITE; PS00251; TNF_1; 1.
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DR   PROSITE; PS50049; TNF_2; 1.
KW   Cytokine; Phosphorylation; Signal-anchor; Transmembrane.
FT   CHAIN         1    233       Tumor necrosis factor, membrane form (By
FT                                similarity).
FT   CHAIN        77    233       Tumor necrosis factor, soluble form (By
FT                                similarity).
FT   TOPO_DOM      1     32       Cytoplasmic (Potential).
FT   TRANSMEM     33     55       Signal-anchor for type II membrane
FT                                protein (By similarity).
FT   TOPO_DOM     56    233       Extracellular (Potential).
FT   SITE         76     77       Cleavage (by ADAM17) (By similarity).
FT   MOD_RES       2      2       Phosphoserine (by CK1) (By similarity).
FT   DISULFID    145    177       By similarity.
SQ   SEQUENCE   233 AA;  25578 MW;  197FB066F744FCAD CRC64;

  Query Match             87.0%;  Score 708;  DB 1;  Length 233;
  Best Local Similarity   87.3%;  Pred. No. 3.8e-63;
  Matches  137;  Conservative    7;  Mismatches   13;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||| ||| ||||||||||||||||||||||||||||||||||||:||||:||
Db         77 VRSSSRIPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSDGLYLVYS 136

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              |||| |||||||  ||||:|||||||||  |||||||:|||||||| ||: :||||||||
Db        137 QVLFKGQGCPSTFTLLTHSISRIAVSYQAKVNLLSAIKSPCQRETPRGAKTHPWYEPIYL 196

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| |||||||: || || ||||||||||||
Db        197 GGVFQLEKGDRLSAEISPPDSLDLAESGQVYFGIIAL 233


RESULT 13
O97538_AOTVO
ID   O97538_AOTVO PRELIMINARY;      PRT;   149 AA.
AC   O97538;
DT   01-MAY-1999 (TrEMBLrel. 10, Created)
DT   01-MAY-1999 (TrEMBLrel. 10, Last sequence update)
DT   01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
DE   Tumor necrosis factor alpha (Fragment).
GN   Name=TNF-alpha;
OS   Aotus vociferans (Spix's owl monkey).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Euarchontoglires; Primates; Platyrrhini; Cebidae;
OC   Aotinae; Aotus.
OX   NCBI_TaxID=57176;
RN   [1]
RP   NUCLEOTIDE SEQUENCE.
RX   MEDLINE=22354194; PubMed=12466897; DOI=10.1007/s00251-002-0512-2;
RA   Hernandez E.C., Suarez C.F., Mendez J.A., Echeverry S.J.,
RA   Murillo L.A., Patarroyo M.E.;
RT   "Identification, cloning, and sequencing of different cytokine genes
RT   in four species of owl monkey.";
RL   Immunogenetics 54:645-653(2002).
DR   EMBL; AF014508; AAD01534.1; -; mRNA.
DR   HSSP; P01375; 4TSV.
DR   SMR; O97538; 1-149.
DR   GO; GO:0016020; C:membrane; IEA.
DR   GO; GO:0005164; F:tumor necrosis factor receptor binding; IEA.
DR   GO; GO:0006955; P:immune response; IEA.
DR   InterPro; IPR006053; TNF_abc.
DR   InterPro; IPR002959; TNF_alpha.
DR   InterPro; IPR006052; TNF_family.
DR   InterPro; IPR003636; TNF_subf.
DR   Pfam; PF00229; TNF; 1.
DR   PRINTS; PR01234; TNECROSISFCT.
DR   PRINTS; PR01235; TNFALPHA.
DR   ProDom; PD002012; TNF_subf; 1.
DR   SMART; SM00207; TNF; 1.
DR   PROSITE; PS00251; TNF_1; 1.
DR   PROSITE; PS50049; TNF_2; 1.
FT   NON_TER       1      1
FT   NON_TER     149    149
SQ   SEQUENCE   149 AA;  16415 MW;  86F1B9BCED16E689 CRC64;

  Query Match             86.2%;  Score 702;  DB 2;  Length 149;
  Best Local Similarity   89.9%;  Pred. No. 8.8e-63;
  Matches  134;  Conservative    5;  Mismatches   10;  Indels    0;  Gaps    0;

Qy          8 PSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYSQVLFSGQ 67
              ||| ||||||||||||||||||||||||||||||||||||||||||:|||||| ||
Db          1 PSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLVYSQVLFKGQ 60

Qy         68 GCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYLGGVFQLE 127
              ||||| :||||:|||||||||  |||||||:|||||||| ||: ||||||||||||||
Db         61 GCPSTFMLLTHSISRIAVSYQAKVNLLSAIKSPCQRETPRGAKTNPWYEPIYLGGVFQLE 120

Qy        128 PGDRLSAEINRPDYLDFAESGQVYFGIIA 156
              ||||||||| ||||| ||||||||||||
Db        121 KGDRLSAEINLPDYLDLAESGQVYFGIIA 149


RESULT 14
Q9TTG8_AOTNI
ID   Q9TTG8_AOTNI PRELIMINARY;      PRT;   149 AA.
AC   Q9TTG8;
DT   01-MAY-2000 (TrEMBLrel. 13, Created)
DT   01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
DT   01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
DE   Tumor necrosis factor alpha (Fragment).
GN   Name=TNF-alpha;
OS   Aotus nigriceps (Black-headed owl monkey).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Euarchontoglires; Primates; Platyrrhini; Cebidae;
OC   Aotinae; Aotus.
OX   NCBI_TaxID=57175;
RN   [1]
RP   NUCLEOTIDE SEQUENCE.
RX   MEDLINE=22354194; PubMed=12466897; DOI=10.1007/s00251-002-0512-2;
RA   Hernandez E.C., Suarez C.F., Mendez J.A., Echeverry S.J.,
RA   Murillo L.A., Patarroyo M.E.;
RT   "Identification, cloning, and sequencing of different cytokine genes
RT   in four species of owl monkey.";
RL   Immunogenetics 54:645-653(2002).
DR   EMBL; AF097328; AAF21303.1; -; mRNA.
DR   HSSP; P01375; 4TSV.
DR   SMR; Q9TTG8; 1-149.
DR   GO; GO:0016020; C:membrane; IEA.
DR   GO; GO:0005164; F:tumor necrosis factor receptor binding; IEA.
DR   GO; GO:0006955; P:immune response; IEA.
DR   InterPro; IPR006053; TNF_abc.
DR   InterPro; IPR002959; TNF_alpha.
DR   InterPro; IPR006052; TNF_family.
DR   InterPro; IPR003636; TNF_subf.
DR   Pfam; PF00229; TNF; 1.
DR   PRINTS; PR01234; TNECROSISFCT.
DR   PRINTS; PR01235; TNFALPHA.
DR   ProDom; PD002012; TNF_subf; 1.
DR   PROSITE; PS00251; TNF_1; 1.
DR   PROSITE; PS50049; TNF_2; 1.
FT   NON_TER       1      1
FT   NON_TER     149    149
SQ   SEQUENCE   149 AA;  16415 MW;  86F1B9BCED16E689 CRC64;

  Query Match             86.2%;  Score 702;  DB 2;  Length 149;
  Best Local Similarity   89.9%;  Pred. No. 8.8e-63;
  Matches  134;  Conservative    5;  Mismatches   10;  Indels    0;  Gaps    0;

Qy          8 PSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYSQVLFSGQ 67
              ||| ||||||||||||||||||||||||||||||||||||||||||:|||||| ||
Db          1 PSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLVYSQVLFKGQ 60

Qy         68 GCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYLGGVFQLE 127
              ||||| :||||:|||||||||  |||||||:|||||||| ||: ||||||||||||||
Db         61 GCPSTFMLLTHSISRIAVSYQAKVNLLSAIKSPCQRETPRGAKTNPWYEPIYLGGVFQLE 120
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Qy        128 PGDRLSAEINRPDYLDFAESGQVYFGIIA 156
              ||||||||| ||||| ||||||||||||
Db        121 KGDRLSAEINLPDYLDLAESGQVYFGIIA 149


RESULT 15
TNFA_HORSE
ID   TNFA_HORSE     STANDARD;      PRT;   234 AA.
AC   P29553; Q9TTJ3;
DT   01-APR-1993 (Rel. 25, Created)
DT   01-APR-1993 (Rel. 25, Last sequence update)
DT   13-SEP-2005 (Rel. 48, Last annotation update)
DE   Tumor necrosis factor precursor (TNF-alpha) (Tumor necrosis factor
DE   ligand superfamily member 2) (TNF-a) (Cachectin) [Contains: Tumor
DE   necrosis factor, membrane form; Tumor necrosis factor, soluble form].
GN   Name=TNF; Synonyms=TNFA, TNFSF2;
OS   Equus caballus (Horse).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Laurasiatheria; Perissodactyla; Equidae; Equus.
OX   NCBI_TaxID=9796;
RN   [1]
RP   NUCLEOTIDE SEQUENCE.
RX   MEDLINE=92084125; PubMed=1748301; DOI=10.1016/0378-1119(91)90333-7;
RA   Su X., Morris D.D., McGraw R.A.;
RT   "Cloning and characterization of gene TNF alpha encoding equine tumor
RT   necrosis factor alpha.";
RL   Gene 107:319-321(1991).
RN   [2]
RP   NUCLEOTIDE SEQUENCE.
RC   STRAIN=Thoroughbred; TISSUE=Artery;
RA   Ishida N., Sato F., Hasegawa T.;
RT   "Molecular cloning of equine tumor necrosis factor-alpha mRNA.";
RL   Submitted (DEC-1999) to the EMBL/GenBank/DDBJ databases.
CC   -!- FUNCTION: Cytokine that binds to TNFRSF1A/TNFR1 and
CC       TNFRSF1B/TNFBR. It is mainly secreted by macrophages and can
CC       induce cell death of certain tumor cell lines. It is potent
CC       pyrogen causing fever by direct action or by stimulation of
CC       interleukin 1 secretion and is implicated in the induction of
CC       cachexia, Under certain conditions it can stimulate cell
CC       proliferation and induce cell differentiation.
CC   -!- SUBUNIT: Homotrimer (By similarity).
CC   -!- SUBCELLULAR LOCATION: Type II membrane protein. Also exists as an
CC       extracellular soluble form (By similarity).
CC   -!- PTM: The soluble form derives from the membrane form by
CC       proteolytic processing (By similarity).
CC   -!- PTM: The membrane form, but not the soluble form, is
CC       phosphorylated on serine residues. Dephosphorylation of the
CC       membrane form occurs by binding to soluble TNFRSF1A/TNFR1 (By
CC       similarity).
CC   -!- SIMILARITY: Belongs to the tumor necrosis factor family.
CC   ---------------------------------------------------------------------
CC   This Swiss-Prot entry is copyright. It is produced through a collaboration
CC   between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC   the European Bioinformatics Institute. There are no restrictions on its
CC   use as long as its content is in no way modified and this statement is not
CC   removed.
CC   ---------------------------------------------------------------------
DR   EMBL; M64087; AAA30959.1; -; Genomic_DNA.
DR   EMBL; AB035735; BAA88349.1; -; mRNA.
DR   PIR; JQ1344; JQ1344.
DR   HSSP; P01375; 1A8M.
DR   SMR; P29553; 83-234.
DR   InterPro; IPR006053; TNF_abc.
DR   InterPro; IPR002959; TNF_alpha.
DR   InterPro; IPR006052; TNF_family.
DR   InterPro; IPR003636; TNF_subf.
DR   PANTHER; PTHR11471:SF4; TNF_alpha; 1.
DR   Pfam; PF00229; TNF; 1.
DR   PRINTS; PR01234; TNECROSISFCT.
DR   PRINTS; PR01235; TNFALPHA.
DR   ProDom; PD002012; TNF_subf; 1.
DR   SMART; SM00207; TNF; 1.
DR   PROSITE; PS00251; TNF_1; 1.
DR   PROSITE; PS50049; TNF_2; 1.
KW   Cytokine; Phosphorylation; Signal-anchor; Transmembrane.
FT   CHAIN         1    234       Tumor necrosis factor, membrane form.
FT   CHAIN        78    234       Tumor necrosis factor, soluble form.
FT   TOPO_DOM      1     35       Cytoplasmic (Potential).
FT   TRANSMEM     36     56       Signal-anchor for type II membrane
FT                                protein (Potential).
FT   TOPO_DOM     57    234       Extracellular (Potential).
FT   SITE         77     78       Cleavage (by ADAM17) (By similarity).
FT   MOD_RES       2      2       Phosphoserine (by CK1) (By similarity).
FT   DISULFID    146    178       By similarity.
FT   CONFLICT    177    179       PCH -> LAN (in Ref. 2).
SQ   SEQUENCE   234 AA;  25469 MW;  E79ACE91143DF373 CRC64;

  Query Match             85.6%;  Score 697;  DB 1;  Length 234;
  Best Local Similarity   85.4%;  Pred. No. 5e-62;
  Matches  134;  Conservative   11;  Mismatches   12;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              :||||||||| |||||||||||||||||: ||||||||||:| ||||||| :|||||||
Db         78 LRSSSRTPSDKPVAHVVANPQAEGQLQWLSGRANALLANGVKLTDNQLVVPLDGLYLIYS 137

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              |||| |||||||||||||||:|||| : |||||||:|||  |:|| ||| ||||||||
Db        138 QVLFKGQGCPSTHVLLTHTISRLAVSYPSKVNLLSAIKSPCHTESPEQAEAKPWYEPIYL 197

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||:||||||:|:||||||||||||||||
Db        198 GGVFQLEKGDQLSAEINQPNYLDFAESGQVYFGIIAL 234


Search completed: May  5, 2006, 11:26:01
Job time : 53.5 secs
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GenCore version 5.1.7

OM protein - protein search, using sw model

Run on: May 5, 2006, 11:22:28 ; Search time 15.25 Seconds
(without alignments)
851.153 Million cell updates/sec

Title: US-10-668-178-13
Perfect score: 814
Sequence: 1 VRSSSRTPSDMPVAHVVANP.....RPDYLDFAESGQVYFGIIAL 157

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 572060 seqs, 82675679 residues

Total number of hits satisfying chosen parameters: 572060

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : Issued_Patents_AA:*
1: /cgn2_6/ptodata/1/iaa/5_COMB.pep:*
2: /cgn2_6/ptodata/1/iaa/6_COMB.pep:*
3: /cgn2_6/ptodata/1/iaa/H_COMB.pep:*
4: /cgn2_6/ptodata/1/iaa/PCTUS_COMB.pep:*
5: /cgn2_6/ptodata/1/iaa/RE_COMB.pep:*
6: /cgn2_6/ptodata/1/iaa/backfiles1.pep:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	779	95.7	157	1	US-07-794-400-1	Sequence 1, Appli
2	779	95.7	157	1	US-08-041-648-2	Sequence 2, Appli
3	779	95.7	157	1	US-08-107-235-1	Sequence 1, Appli
4	779	95.7	157	1	US-08-217-529-2	Sequence 2, Appli
5	779	95.7	157	1	US-08-318-193-86	Sequence 86, Appl
6	779	95.7	157	1	US-08-397-470-1	Sequence 1, Appli
7	779	95.7	157	1	US-08-192-102-1	Sequence 1, Appli
8	779	95.7	157	1	US-08-324-799-1	Sequence 1, Appli
9	779	95.7	157	1	US-08-538-875-1	Sequence 1, Appli
10	779	95.7	157	1	US-08-394-600B-17	Sequence 17, Appl
11	779	95.7	157	1	US-08-500-860A-35	Sequence 35, Appl
12	779	95.7	157	1	US-08-192-861A-1	Sequence 1, Appli
13	779	95.7	157	1	US-08-600-783-5	Sequence 5, Appli
14	779	95.7	157	2	US-08-584-031-13	Sequence 13, Appl
15	779	95.7	157	2	US-08-714-960B-1	Sequence 1, Appli
16	779	95.7	157	2	US-09-133-119-1	Sequence 1, Appli
17	779	95.7	157	2	US-08-192-093A-1	Sequence 1, Appli
18	779	95.7	157	2	US-09-598-784-1	Sequence 1, Appli
19	779	95.7	157	2	US-09-496-118B-7	Sequence 7, Appli
20	779	95.7	157	2	US-08-395-456C-17	Sequence 17, Appl
21	779	95.7	157	2	US-08-487-453A-17	Sequence 17, Appl
22	779	95.7	157	2	US-09-582-450-13	Sequence 13, Appl
23	779	95.7	157	2	US-09-934-465-13	Sequence 13, Appl
24	779	95.7	157	2	US-09-756-301B-1	Sequence 1, Appli
25	779	95.7	157	2	US-09-756-398B-1	Sequence 1, Appli
26	779	95.7	157	4	PCT-US92-02190-1	Sequence 1, Appli
27	779	95.7	157	4	PCT-US93-02475-1	Sequence 1, Appli
28	779	95.7	157	4	PCT-US95-02513-17	Sequence 17, Appl
29	779	95.7	157	6	5180811-1	Patent No. 5180811
30	779	95.7	158	2	US-09-645-415A-4	Sequence 4, Appli
31	779	95.7	177	1	US-08-394-600B-21	Sequence 21, Appl
32	779	95.7	177	2	US-08-395-456C-21	Sequence 21, Appl
33	779	95.7	177	2	US-08-487-453A-21	Sequence 21, Appl
34	779	95.7	177	4	PCT-US95-02513-21	Sequence 21, Appl
35	779	95.7	180	2	US-09-645-415A-8	Sequence 8, Appli
36	779	95.7	193	1	US-08-889-909A-3	Sequence 3, Appli
37	779	95.7	193	2	US-09-156-163A-3	Sequence 3, Appli
38	779	95.7	193	2	US-09-982-308B-3	Sequence 3, Appli
39	779	95.7	233	1	US-08-323-445A-10	Sequence 10, Appl
40	779	95.7	233	1	US-08-515-903A-10	Sequence 10, Appl
41	779	95.7	233	1	US-08-912-227-3	Sequence 3, Appli
42	779	95.7	233	1	US-08-230-428B-2	Sequence 2, Appli
43	779	95.7	233	2	US-08-883-086-6	Sequence 6, Appli
44	779	95.7	233	2	US-08-880-342-37	Sequence 37, Appl
45	779	95.7	233	2	US-09-589-287B-3	Sequence 3, Appli

ALIGNMENTS

RESULT 1
US-07-794-400-1
; Sequence 1, Application US/07794400
; Patent No. 5422104
; GENERAL INFORMATION:
; APPLICANT: Piers, W.
; APPLICANT: Tavernier, J.
; APPLICANT: Van Ostade, X.
; TITLE OF INVENTION: TNF-Muteins
; NUMBER OF SEQUENCES: 24
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Hoffmann-La Roche Inc.
; STREET: 340 Kingsland Street
; CITY: Nutley
; STATE: New Jersey
; COUNTRY: USA
; ZIP: 07110
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.25
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/07/794,400
; FILING DATE: 19911120
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: EP 90810901.0
; FILING DATE: 21-NOV-1990
; ATTORNEY/AGENT INFORMATION:
; NAME: Krovatin, William
; REGISTRATION NUMBER: 33256
; REFERENCE/DOCKET NUMBER: 4105/136-00
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (201) 235-4387
; TELEFAX: (201) 235-3500
; INFORMATION FOR SEQ ID NO: 1:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 157 amino acids
; TYPE: AMINO ACID
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; ORIGINAL SOURCE:
; ORGANISM: Homo sapiens
; TISSUE TYPE: Blood
; CELL TYPE: Macrophage
US-07-794-400-1

Query Match 95.7%; Score 779; DB 1; Length 157;
Best Local Similarity 96.2%; Pred. No. 9.5e-74;

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  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
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Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
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Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
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Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 2
US-08-041-648-2
; Sequence 2, Application US/08041648
; Patent No. 5486463
;  GENERAL INFORMATION:
;    APPLICANT:  Lesslauer, Werner
;    APPLICANT:  L tscher, Hansruedi
;    APPLICANT:  St ber, Dietrich
;    TITLE OF INVENTION:  TNF-MUTEINS
;    NUMBER OF SEQUENCES:  17
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  George M. Gould, Esq., Hoffmann-La Roche Inc.
;      STREET:  340 Kingsland Street
;      CITY:  Nutley
;      STATE:  New Jersey
;      COUNTRY:  U.S.A.
;      ZIP:  07110-1199
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/041,648
;      FILING DATE:  1-APR-1993
;      CLASSIFICATION:  435
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  EP 92810249.0
;      FILING DATE:  2-APR-1992
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Roseman, Catherine R.
;      REGISTRATION NUMBER:  34240
;      REFERENCE/DOCKET NUMBER:  RAN 4105/147
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (201) 235-6208
;      TELEFAX:  (201) 235-3500
;  INFORMATION FOR SEQ ID NO:  2:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  157 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
US-08-041-648-2

  Query Match             95.7%;  Score 779;  DB 1;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 9.5e-74;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
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Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
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Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
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Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 3
US-08-107-235-1
; Sequence 1, Application US/08107235
; Patent No. 5587457
;  GENERAL INFORMATION:
;    APPLICANT:  Rathjen, Deborah A
;    APPLICANT:  Ferrante, Antonio
;    APPLICANT:  Widmer, Fred
;    TITLE OF INVENTION:  Neutrophil Stimulating Peptides
;    NUMBER OF SEQUENCES:  19
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Allegretti & Witcoff, Ltd.
;      STREET:  10 S. Wacker Dr.
;      CITY:  Chicago
;      STATE:  Illinois
;      COUNTRY:  USA
;      ZIP:  60606
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/107,235
;      FILING DATE:  16-AUG-1993
;      CLASSIFICATION:  530
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 07/930,415
;      FILING DATE:  12-MAR-1991
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  McDonnell, John J
;      REGISTRATION NUMBER:  26,949
;      REFERENCE/DOCKET NUMBER:  92,622A
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  312-715-1000
;      TELEFAX:  312-715-1234
;  INFORMATION FOR SEQ ID NO:  1:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  157 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
;    FEATURE:
;      NAME/KEY:  Peptide
;      LOCATION:  1..157
;      OTHER INFORMATION:  /note= "HUMAN TNF)"
US-08-107-235-1

  Query Match             95.7%;  Score 779;  DB 1;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 9.5e-74;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
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Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
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Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
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Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 4
US-08-217-529-2
; Sequence 2, Application US/08217529
; Patent No. 5597899
;  GENERAL INFORMATION:
```

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;    APPLICANT:  Banner, David
;    APPLICANT:  Lesslauer, Werner
;    APPLICANT:  Lotscher, Hansreudi
;    APPLICANT:  Stuber, Dietrich
;    TITLE OF INVENTION:  Tumor Necrosis Factor Muteins
;    NUMBER OF SEQUENCES:  7
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  George M. Gould, Esq., Hoffmann-La Roche Inc.
;      STREET:  340 Kingsland Street
;      CITY:  Nutley
;      STATE:  New Jersey
;      COUNTRY:  U.S.
;      ZIP:  07110
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/217,529
;      FILING DATE:  24-MAR-1994
;      CLASSIFICATION:  530
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  EP 93810224.1
;      FILING DATE:  29-MAR-1993
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Roseman, Catherine R
;      REGISTRATION NUMBER:  34240
;      REFERENCE/DOCKET NUMBER:  4105/155
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (201) 235-6208
;      TELEFAX:  (201) 235-3500
;  INFORMATION FOR SEQ ID NO:  2:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  157 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
US-08-217-529-2

  Query Match             95.7%;  Score 779;  DB 1;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 9.5e-74;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
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Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
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Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
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Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 5
US-08-318-193-86
; Sequence 86, Application US/08318193
; Patent No. 5641663
;  GENERAL INFORMATION:
;    APPLICANT:  GARVIN, Robert T.
;    APPLICANT:  MALEK, Lawrence T.
;    TITLE OF INVENTION:  AN EXPRESSION SYSTEM FOR THE SECRETION
;    TITLE OF INVENTION:  OF BIOACTIVE HUMAN GRANULOCYTE MACROPHAGE COLONY
;    TITLE OF INVENTION:  STIMULATING FACTOR (GM-CSF) AND OTHER HETEROLOGOUS
;    TITLE OF INVENTION:  PROTEINS FROM STREPTOMYCES
;    NUMBER OF SEQUENCES:  91
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Foley & Lardner
;      STREET:  1800 Diagonal Road, Suite 500
;      CITY:  Alexandria
;      STATE:  Virginia
;      COUNTRY:  USA
;      ZIP:  22313-0299
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/318,193
;      FILING DATE:
;      CLASSIFICATION:  435
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US/07/935,314
;      FILING DATE:
;      APPLICATION NUMBER:  US 07/224,568
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  BENT, Stephen A.
;      REGISTRATION NUMBER:  29,768
;      REFERENCE/DOCKET NUMBER:  18740/116 CACO
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (703)836-9300
;      TELEFAX:  (703)683-4109
;      TELEX:  899149
;  INFORMATION FOR SEQ ID NO:  86:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  157 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
US-08-318-193-86

  Query Match             95.7%;  Score 779;  DB 1;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 9.5e-74;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
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Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
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Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 6
US-08-397-470-1
; Sequence 1, Application US/08397470
; Patent No. 5652353
;  GENERAL INFORMATION:
;    APPLICANT:  Fiers, W.
;    APPLICANT:  Tavernier, J.
;    APPLICANT:  Van Ostade, X.
;    TITLE OF INVENTION:  TNF-Muteins
;    NUMBER OF SEQUENCES:  24
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Hoffmann-La Roche Inc.
;      STREET:  340 Kingsland Street
;      CITY:  Nutley
;      STATE:  New Jersey
;      COUNTRY:  USA
;      ZIP:  07110
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/397,470
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;      FILING DATE:  01-MAR-1995
;      CLASSIFICATION:  435
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 07/794,400
;      FILING DATE:  20-NOV-1991
;      APPLICATION NUMBER:  EP 90810901.0
;      FILING DATE:  21-NOV-1990
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Krovatin, William
;      REGISTRATION NUMBER:  33256
;      REFERENCE/DOCKET NUMBER:  4105/136-00
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (201) 235-4387
;      TELEFAX:  (201) 235-3500
;  INFORMATION FOR SEQ ID NO:  1:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  157 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
;    ORIGINAL SOURCE:
;      ORGANISM:  Homo sapiens
;      TISSUE TYPE:  Blood
;      CELL TYPE:  Macrophage
US-08-397-470-1

  Query Match             95.7%;  Score 779;  DB 1;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 9.5e-74;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
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Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
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Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 7
US-08-192-102-1
; Sequence 1, Application US/08192102
; Patent No. 5656272
;  GENERAL INFORMATION:
;    APPLICANT:  Le, Junming
;    APPLICANT:  Vilcek, Jan
;    APPLICANT:  Daddona, Peter E.
;    APPLICANT:  Ghrayeb, John
;    APPLICANT:  Knight, David M.
;    APPLICANT:  Siegel, Scott A.
;    TITLE OF INVENTION:  ANTI-TNF ANTIBODIES AND ASSAYS EMPLOYING
;    TITLE OF INVENTION:  ANTI-TNF ANTIBODIES
;    NUMBER OF SEQUENCES:  19
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Hamilton, Brook, Smith & Reynolds, P.C.
;      STREET:  Two Militia Drive
;      CITY:  Lexington
;      STATE:  Massachusetts
;      COUNTRY:  USA
;      ZIP:  02173
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/192,102
;      FILING DATE:  04-FEB-1994
;      CLASSIFICATION:  424
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/192,093
;      FILING DATE:  04-FEB-1994
;      APPLICATION NUMBER:  US 08/013,413
;      FILING DATE:  02-FEB-1993
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 08/010,406
;      FILING DATE:  29-JAN-1993
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 07/943,852
;      FILING DATE:  11-SEP-1992
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 07/853,606
;      FILING DATE:  18-MAR-1992
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 07/670,827
;      FILING DATE:  18-MAR-1991
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Brook, David E.
;      REGISTRATION NUMBER:  22,592
;      REFERENCE/DOCKET NUMBER:  NYU93-01M3
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (617) 861-6240
;      TELEFAX:  (617) 861-9540
;  INFORMATION FOR SEQ ID NO:  1:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  157 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  peptide
US-08-192-102-1

  Query Match             95.7%;  Score 779;  DB 1;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 9.5e-74;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              |||| |||||||||||||||||||||| |||||||:||||||||||||| ||||||||
Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| |||||||||||||||||||||||||||||
Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 8
US-08-324-799-1
; Sequence 1, Application US/08324799
; Patent No. 5698195
;  GENERAL INFORMATION:
;    APPLICANT:  Le, Junming
;    APPLICANT:  Vilcek, Jan
;    APPLICANT:  Daddona, Peter E.
;    APPLICANT:  Ghrayeb, John
;    APPLICANT:  Knight, David M.
;    APPLICANT:  Siegel, Scott A.
;    TITLE OF INVENTION:  ANTI-TNF ANTIBODIES AND PEPTIDES
;    TITLE OF INVENTION:  OF HUMAN TUMOR NECROSIS FACTOR
;    NUMBER OF SEQUENCES:  19
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Hamilton, Brook, Smith & Reynolds, P.C.
;      STREET:  Two Militia Drive
;      CITY:  Lexington
;      STATE:  Massachusetts
;      COUNTRY:  USA
;      ZIP:  02173
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
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;       OPERATING SYSTEM:  PC-DOS/MS-DOS
;       SOFTWARE:  PatentIn Release #1.0, Version #1.25
;     CURRENT APPLICATION DATA:
;       APPLICATION NUMBER:  US/08/324,799
;       FILING DATE:  18-OCT-1994
;     PRIOR APPLICATION DATA:
;       APPLICATION NUMBER:  08/192,093
;       FILING DATE:  04-FEB-1994
;     PRIOR APPLICATION DATA:
;       APPLICATION NUMBER:  08/192,102
;       FILING DATE:  04-FEB-1994
;     PRIOR APPLICATION DATA:
;       APPLICATION NUMBER:  08/192,861
;       FILING DATE:  04-FEB-1994
;     PRIOR APPLICATION DATA:
;       APPLICATION NUMBER:  US 08/013,413
;       FILING DATE:  02-FEB-1993
;     PRIOR APPLICATION DATA:
;       APPLICATION NUMBER:  US 08/010,406
;       FILING DATE:  29-JAN-1993
;     PRIOR APPLICATION DATA:
;       APPLICATION NUMBER:  US 07/943,852
;       FILING DATE:  11-SEP-1992
;     PRIOR APPLICATION DATA:
;       APPLICATION NUMBER:  US 07/853,606
;       FILING DATE:  18-MAR-1992
;     PRIOR APPLICATION DATA:
;       APPLICATION NUMBER:  US 07/670,827
;       FILING DATE:  18-MAR-1991
;     ATTORNEY/AGENT INFORMATION:
;       NAME:  Brook, David E.
;       REGISTRATION NUMBER:  22,592
;       REFERENCE/DOCKET NUMBER:  NYU93-01M4
;     TELECOMMUNICATION INFORMATION:
;       TELEPHONE:  (617) 861-6240
;       TELEFAX:  (617) 861-9540
;   INFORMATION FOR SEQ ID NO:  1:
;     SEQUENCE CHARACTERISTICS:
;       LENGTH:  157 amino acids
;       TYPE:  amino acid
;       TOPOLOGY:  linear
;     MOLECULE TYPE:  peptide
US-08-324-799-1

  Query Match             95.7%;  Score 779;  DB 1;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 9.5e-74;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| |||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              |||| |||||||||||||||||||||| ||||||:||||||||||||| ||||||||
Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| |||||||||||||||||||||||||||||
Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 9
US-08-538-875-1
; Sequence 1, Application US/08538875
; Patent No. 5773582
;  GENERAL INFORMATION:
;    APPLICANT:  Shin, Hang-Cheol
;    APPLICANT:  Shin, Nam-Kyu
;    APPLICANT:  Lee, Inkyung
;    APPLICANT:  Kang, Sungzong
;    TITLE OF INVENTION:  TUMOR NECROSIS FACTOR MUTEINS
;    NUMBER OF SEQUENCES:  73
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Shin, Hang-Cheol
;      STREET:  Jukong Gocheung Apt. 1014-806, Haan-dong
;      CITY:  Kwangmyung-shi
;      STATE:  Kyungki-do
;      COUNTRY:  Republic of Korea
;      ZIP:  423-060
;      ADDRESSEE:  Shin, Nam-Kyu
;      STREET:  #181-404 Sadang-4-dong, Dongjak-ku
;      CITY:  Seoul
;      STATE:
;      COUNTRY:  Republic of Korea
;      ZIP:  156-094
;      ADDRESSEE:  Lee, Inkyung
;      STREET:  11/2, #302-39 Juan-4-dong, Nam-ku
;      CITY:  Incheon
;      STATE:
;      COUNTRY:  Republic of Korea
;      ZIP:  402-204
;      ADDRESSEE:  Kang, Sungzong
;      STREET:  #84-4 Daeshin-dong, Seodaemun-ku
;      CITY:  Seoul
;      STATE:
;      COUNTRY:  Republic of Korea
;      ZIP:  120-160
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Diskette 3.5inch 2.0Mb storage
;      COMPUTER:  IBM PC/AT
;      OPERATING SYSTEM:  MS-DOS
;      SOFTWARE:  WordPerfect 5.1
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/538,875
;      FILING DATE:
;      CLASSIFICATION:  435
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/193,336
;      FILING DATE:
;      APPLICATION NUMBER:  KR 93-1751
;      FILING DATE:  9-FEB-1993
;    ATTORNEY/AGENT INFORMATION:
;      NAME:
;      REGISTRATION NUMBER:
;      REFERENCE/DOCKET NUMBER:
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:
;      TELEFAX:
;  INFORMATION FOR SEQ ID NO:  1:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  157 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
US-08-538-875-1

  Query Match             95.7%;  Score 779;  DB 1;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 9.5e-74;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| |||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              |||| |||||||||||||||||||||| ||||||:||||||||||||| ||||||||
Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| |||||||||||||||||||||||||||||
Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 10
US-08-394-600B-17
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```
; Sequence 17, Application US/08394600B
; Patent No. 5843693
;  GENERAL INFORMATION:
;    APPLICANT:  Halenbeck, Robert F.
;    APPLICANT:  Jewell, David A.
;    APPLICANT:  Koths, Kirston E.
;    APPLICANT:  Kriegler, Michael
;    APPLICANT:  Perez, Carl
;    TITLE OF INVENTION:  Compositions for the Inhibition of
;    TITLE OF INVENTION:  Protein Hormone Formation and Uses Thereof
;    NUMBER OF SEQUENCES:  28
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  McAndrews, Held & Malloy, Ltd.
;      STREET:  500 West Madison Street; 34th Floor
;      CITY:  Chicago
;      STATE:  Illinois
;      COUNTRY:  United States of America
;      ZIP:  60661
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/394,600B
;      FILING DATE:  02/27/95
;      CLASSIFICATION:  435
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Donald J. Pochopien
;      REGISTRATION NUMBER:  32,167
;      REFERENCE/DOCKET NUMBER:  820.005/11850US05
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  312/707-8889
;      TELEFAX:  312/707-9155
;      TELEX:
;  INFORMATION FOR SEQ ID NO:  17:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  157 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
US-08-394-600B-17

  Query Match             95.7%;  Score 779;  DB 1;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 9.5e-74;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              |||| |||||||||||||||||||||| |||||||:||||||||||||| ||||||||
Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||||||||||||||||||||||||
Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 11
US-08-500-860A-35
; Sequence 35, Application US/08500860A
; Patent No. 5891679
;  GENERAL INFORMATION:
;    APPLICANT:  LUCAS, RUDOLPH
;    APPLICANT:  DE BAETSELIER, PATRICK
;    APPLICANT:  FRANSEN, LUCIE
;    APPLICANT:  SABLON, ERWIN
;    TITLE OF INVENTION:  TNF-MUTEINS, A PROCESS FOR PREPARING THEM AND
;    TITLE OF INVENTION:  THEIR USE AS ACTIVE SUBSTANCES IN PHARMACEUTICAL COMPOSITIONS
;    NUMBER OF SEQUENCES:  36
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  NIXON & VANDERHYE P.C.
;      STREET:  1100 NORTH GLEBE ROAD
;      CITY:  ARLINGTON
;      STATE:  VIRGINIA
;      COUNTRY:  U.S.A.
;      ZIP:  22201-4714
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/500,860A
;      FILING DATE:
;      CLASSIFICATION:  435
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  BYRNE, THOMAS E.
;      REGISTRATION NUMBER:  32,205
;      REFERENCE/DOCKET NUMBER:  1487-8
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (703)816-4000
;      TELEFAX:  (703)816-4100
;      TELEX:  200797 NIXN UR
;  INFORMATION FOR SEQ ID NO:  35:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  157 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  peptide
US-08-500-860A-35

  Query Match             95.7%;  Score 779;  DB 1;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 9.5e-74;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              |||| |||||||||||||||||||||| |||||||:||||||||||||| ||||||||
Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||||||||||||||||||||||||
Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 12
US-08-192-861A-1
; Sequence 1, Application US/08192861A
; Patent No. 5919452
;  GENERAL INFORMATION:
;    APPLICANT:  Le, Junming
;    APPLICANT:  Vilcek, Jan
;    APPLICANT:  Daddona, Peter E.
;    APPLICANT:  Ghrayeb, John
;    APPLICANT:  Knight, David M.
;    APPLICANT:  Siegel, Scott A.
;    TITLE OF INVENTION:  METHODS OF TREATING TNF'-MEDIATED DISEASE USING
;    TITLE OF INVENTION:  CHIMERIC ANTI-TNF ANTIBODIES (As Amended)
;    NUMBER OF SEQUENCES:  19
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Hamilton, Brook, Smith & Reynolds, P.C.
;      STREET:  Two Militia Drive
;      CITY:  Lexington
;      STATE:  Massachusetts
;      COUNTRY:  USA
;      ZIP:  02173
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
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;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/192,861A
;      FILING DATE:  04-FEB-1994
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 08/013,413
;      FILING DATE:  02-FEB-1993
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 08/010,406
;      FILING DATE:  29-JAN-1993
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 07/943,852
;      FILING DATE:  11-SEP-1992
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 07/853,606
;      FILING DATE:  18-MAR-1992
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 07/670,827
;      FILING DATE:  18-MAR-1991
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Brook, David E.
;      REGISTRATION NUMBER:  22,592
;      REFERENCE/DOCKET NUMBER:  NYU93-01M2
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (781) 861-6240
;      TELEFAX:  (781) 861-9540
;  INFORMATION FOR SEQ ID NO:  1:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  157 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  peptide
US-08-192-861A-1

  Query Match             95.7%;  Score 779;  DB 1;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 9.5e-74;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| |||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              |||| |||||||||||||||||||||| |||||||:||||||||||||| ||||||||
Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| |||||||||||||||||||||||||||||
Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 13
US-08-600-783-5
; Sequence 5, Application US/08600783
; Patent No. 5962267
;  GENERAL INFORMATION:
;    APPLICANT:  SHIN, Hang Cheol
;    APPLICANT:  CHANG, Seung Gu
;    APPLICANT:  KIM, Dae Young
;    APPLICANT:  KIM, Chong Suhl
;    TITLE OF INVENTION:  Proinsulin Derivative and Process
;    TITLE OF INVENTION:  for Producing Human Insulin
;    NUMBER OF SEQUENCES:  36
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  SHIN, Hang Cheol
;      STREET:  Ssangma-Hanshin Apt. 102-1206,
;      STREET:  #245 Cholsan-dong
;      CITY:  Kwangmyung-shi
;      STATE:  Kyungki-do
;      COUNTRY:  Republic of Korea
;      ZIP:  423-030
;      ADDRESSEE:  CHANG, Seung Gu
;      STREET:  Hyundai Apt. 71-203, Apkujong-dong,
;      STREET:  Kangnam-ku
;      CITY:  Seoul
;      STATE:  Seoul
;      COUNTRY:  Republic of Korea
;      ZIP:  135-110
;      ADDRESSEE:  KIM, Dae Young
;      STREET:  Sosa Jukong Apt. 108-202, Sosa Bon-dong,
;      STREET:  Sosa-ku
;      CITY:  Bucheon-shi
;      STATE:  Kyungki-do
;      COUNTRY:  Republic of Korea
;      ZIP:  422-230
;      ADDRESSEE:  KIM, Chong Suhl
;      STREET:  Garden Heights Apt. 202-801, #100,
;      STREET:  Hwangkeum-dong, Soosung-ku
;      CITY:  Taegu
;      STATE:  Taegu
;      COUNTRY:  Republic of Korea
;      ZIP:  706-040
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy Disk, 3.5 inch, 1.44MB storage
;      COMPUTER:  IBM PC/AT
;      OPERATING SYSTEM:  MS-DOS
;      SOFTWARE:  Word Perfect 5.1
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/600,783
;      FILING DATE:
;      CLASSIFICATION:  514
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  KR 95-2751
;      FILING DATE:  15-FEB-1995
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Shahan Islam
;      REGISTRATION NUMBER:  32,507
;      REFERENCE/DOCKET NUMBER:
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (212) 278-1000
;      TELEFAX:  (212) 953-7249
;  INFORMATION FOR SEQ ID NO:  5:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  157 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
US-08-600-783-5

  Query Match             95.7%;  Score 779;  DB 1;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 9.5e-74;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| |||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              |||| |||||||||||||||||||||| |||||||:||||||||||||| ||||||||
Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| |||||||||||||||||||||||||||||
Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 14
US-08-584-031-13
; Sequence 13, Application US/08584031A
; Patent No. 6030945
; GENERAL INFORMATION:
;  APPLICANT: Ashkenazi, Avi J.
;  TITLE OF INVENTION: APO-2 LIGAND
;  FILE REFERENCE: 11669.22US03
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;  CURRENT APPLICATION NUMBER: US/08/584,031A
;  CURRENT FILING DATE: 1996-01-09
;  NUMBER OF SEQ ID NOS: 17
;  SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 13
;   LENGTH: 157
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-08-584-031-13

  Query Match             95.7%;  Score 779;  DB 2;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 9.5e-74;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              |||| |||||||||||||||||||||| |||||||:||||||||||||| ||||||||
Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| |||||||||||||||||||||||||||||
Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 15
US-08-714-960B-1
; Sequence 1, Application US/08714960B
; Patent No. 6121237
;  GENERAL INFORMATION:
;    APPLICANT:  RATHJEN, Deborah A
;    APPLICANT:  FERRANTE, Antonio
;    TITLE OF INVENTION:  Neutrophil Stimulating Peptides
;    NUMBER OF SEQUENCES:  19
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  BANNER & WITCOFF, LTD.
;      STREET:  10 S. Wacker Drive, Suite 3000
;      CITY:  Chicago
;      STATE:  Illinois
;      COUNTRY:  USA
;      ZIP:  60606
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  1.44 Mb storage diskette, 3.50 inch
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  IBM compatible PC/MS-DOS
;      SOFTWARE:  WordPerfect version 6.1
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/714,960B
;      FILING DATE:  17-SEP-1996
;      CLASSIFICATION:  514
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  AU PJ9065
;      FILING DATE:  12-MAR-1990
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  PCT/AU91/00086
;      FILING DATE:  12-MAR-1991
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 07/930,415
;      FILING DATE:  09-NOV-1992
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 08/107,235
;      FILING DATE:  16-AUG-1993
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Resis, Robert H.
;      REGISTRATION NUMBER:  32,168
;      REFERENCE/DOCKET NUMBER:  92,622-B
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (312) 715-1000
;      TELEFAX:  (312) 715-1234
;  INFORMATION FOR SEQ ID NO:  1:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  157 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  not relevant
;    MOLECULE TYPE:  protein
;    FEATURE:
;      NAME/KEY:  Protein
;      LOCATION:  1..157
;      OTHER INFORMATION:  /note= "Human TNF"
US-08-714-960B-1

  Query Match             95.7%;  Score 779;  DB 2;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 9.5e-74;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

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Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
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Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
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Job time : 15.25 secs
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GenCore version 5.1.7

OM protein - protein search, using sw model

Run on: May 5, 2006, 11:26:23 ; Search time 45.5 Seconds
(without alignments)
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Title: US-10-668-178-13
Perfect score: 814
Sequence: 1 VRSSSRTPSDMPVAHVVANP.....RPDYLDFAESGQVYFGIIAL 157

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 1867569 seqs, 417829326 residues

Total number of hits satisfying chosen parameters: 1867569

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

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2: /cgn2_6/ptodata/1/pubpaa/US08_PUBCOMB.pep:*
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6: /cgn2_6/ptodata/1/pubpaa/US11_PUBCOMB.pep:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	814	100.0	157	4	US-10-354-985-3	Sequence 3, Appli
2	814	100.0	157	5	US-10-668-178-3	Sequence 3, Appli
3	814	100.0	157	5	US-10-668-178-13	Sequence 13, Appl
4	779	95.7	157	3	US-09-756-301A-1	Sequence 1, Appli
5	779	95.7	157	3	US-09-927-703-1	Sequence 1, Appli
6	779	95.7	157	3	US-09-854-280-19	Sequence 19, Appl
7	779	95.7	157	3	US-09-934-465-13	Sequence 13, Appl
8	779	95.7	157	3	US-09-766-535A-1	Sequence 1, Appli
9	779	95.7	157	3	US-09-854-208-19	Sequence 19, Appl
10	779	95.7	157	3	US-09-756-161A-1	Sequence 1, Appli
11	779	95.7	157	3	US-09-903-327A-7	Sequence 7, Appli
12	779	95.7	157	3	US-09-756-398B-1	Sequence 1, Appli
13	779	95.7	157	3	US-09-897-724-1	Sequence 1, Appli
14	779	95.7	157	4	US-10-010-229-1	Sequence 1, Appli
15	779	95.7	157	4	US-10-043-450-1	Sequence 1, Appli
16	779	95.7	157	4	US-10-044-534-1	Sequence 1, Appli
17	779	95.7	157	4	US-10-099-007A-1	Sequence 1, Appli
18	779	95.7	157	4	US-10-043-432-1	Sequence 1, Appli
19	779	95.7	157	4	US-10-119-621-1	Sequence 1, Appli
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21	779	95.7	157	4	US-10-262-630-9	Sequence 9, Appli
22	779	95.7	157	4	US-10-305-347A-9	Sequence 9, Appli
23	779	95.7	157	4	US-10-198-845-1	Sequence 1, Appli
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25	779	95.7	157	4	US-10-170-812-7	Sequence 7, Appli
26	779	95.7	157	4	US-10-187-121-1	Sequence 1, Appli
27	779	95.7	157	4	US-10-176-460-1	Sequence 1, Appli
28	779	95.7	157	4	US-10-186-559-1	Sequence 1, Appli
29	779	95.7	157	4	US-10-371-961-1	Sequence 1, Appli
30	779	95.7	157	4	US-10-200-795-1	Sequence 1, Appli
31	779	95.7	157	4	US-10-319-011-1	Sequence 1, Appli
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35	779	95.7	157	4	US-10-354-985-1	Sequence 1, Appli
36	779	95.7	157	4	US-10-397-786A-1	Sequence 1, Appli
37	779	95.7	157	4	US-10-665-971-1	Sequence 1, Appli
38	779	95.7	157	4	US-10-637-759-1	Sequence 1, Appli
39	779	95.7	157	4	US-10-327-619-1	Sequence 1, Appli
40	779	95.7	157	4	US-10-774-118-1	Sequence 1, Appli
41	779	95.7	157	4	US-10-394-471B-17	Sequence 17, Appl
42	779	95.7	157	5	US-10-861-685-13	Sequence 13, Appl
43	779	95.7	157	5	US-10-668-178-1	Sequence 1, Appli
44	779	95.7	157	5	US-10-957-134-1	Sequence 1, Appli
45	779	95.7	157	5	US-10-727-155-265	Sequence 265, App

ALIGNMENTS

RESULT 1
US-10-354-985-3
; Sequence 3, Application US/10354985
; Publication No. US20040001802A1
; GENERAL INFORMATION:
; APPLICANT: MAYUMI, Tandanori et al.
; TITLE OF INVENTION: PHYSIOLOGICALLY ACTIVE COMPLEX
; FILE REFERENCE: MAYUMI=2
; CURRENT APPLICATION NUMBER: US/10/354,985
; CURRENT FILING DATE: 2003-01-31
; PRIOR APPLICATION NUMBER: JP 083509/2002
; PRIOR FILING DATE: 2002-03-25
; PRIOR APPLICATION NUMBER: JP 1185387/2002
; PRIOR FILING DATE: 2002-06-26
; NUMBER OF SEQ ID NOS: 12
; SOFTWARE: PatentIn version 3.2
; SEQ ID NO 3
; LENGTH: 157
; TYPE: PRT
; ORGANISM: Artificial
; FEATURE:
; OTHER INFORMATION: Variant protein of human tumor necrosis factor
US-10-354-985-3

Query Match 100.0%; Score 814; DB 4; Length 157;
Best Local Similarity 100.0%; Pred. No. 2.7e-80;
Matches 157; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
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RESULT 2
US-10-668-178-3
; Sequence 3, Application US/10668178
; Publication No. US20050013795A1
; GENERAL INFORMATION:
; APPLICANT: KABUSHIKI KAISHA HAYASHIBARA SEIBUTSU KAGAKU KENKYUJO
; APPLICANT: MAYUMI, Tadanori
; APPLICANT: TSUTSUMI, Yasuo
; APPLICANT: NAKAGAWA, Shinsaku

```
;  APPLICANT:  IKEGAMI, Hakuo
;  TITLE OF INVENTION: Biologically-active conjugate
;  FILE REFERENCE: MAYUMI2A
;  CURRENT APPLICATION NUMBER: US/10/668,178
;  CURRENT FILING DATE:  2003-09-24
;  PRIOR APPLICATION NUMBER: JP 83509/2002
;  PRIOR FILING DATE: 2002-03-25
;  PRIOR APPLICATION NUMBER: JP 185387/2002
;  PRIOR FILING DATE: 2002-06-26
;  NUMBER OF SEQ ID NOS: 16
;  SOFTWARE: PatentIn version 3.3
; SEQ ID NO 3
;   LENGTH: 157
;   TYPE: PRT
;   ORGANISM: Artificial
;   FEATURE:
;   OTHER INFORMATION: synthetic (Variant protein of human tumor necrosis factor)
US-10-668-178-3

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  Matches  157;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
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RESULT 3
US-10-668-178-13
; Sequence 13, Application US/10668178
; Publication No. US20050013795A1
; GENERAL INFORMATION:
;  APPLICANT: KABUSHIKI KAISHA HAYASHIBARA SEIBUTSU KAGAKU KENKYUJO
;  APPLICANT:  MAYUMI, Tadanori
;  APPLICANT:  TSUTSUMI, Yasuo
;  APPLICANT:  NAKAGAWA, Shinsaku
;  APPLICANT:  IKEGAMI, Hakuo
;  TITLE OF INVENTION: Biologically-active conjugate
;  FILE REFERENCE: MAYUMI2A
;  CURRENT APPLICATION NUMBER: US/10/668,178
;  CURRENT FILING DATE:  2003-09-24
;  PRIOR APPLICATION NUMBER: JP 83509/2002
;  PRIOR FILING DATE: 2002-03-25
;  PRIOR APPLICATION NUMBER: JP 185387/2002
;  PRIOR FILING DATE: 2002-06-26
;  NUMBER OF SEQ ID NOS: 16
;  SOFTWARE: PatentIn version 3.3
; SEQ ID NO 13
;   LENGTH: 157
;   TYPE: PRT
;   ORGANISM: Artificial
;   FEATURE:
;   OTHER INFORMATION: Synthetic Construct
US-10-668-178-13

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RESULT 4
US-09-756-301A-1
; Sequence 1, Application US/09756301A
; Patent No. US20010027249A1
; GENERAL INFORMATION:
;  APPLICANT: Le, Junming
;  APPLICANT:  Vilcek, Jan
;  APPLICANT:  Daddona, Peter
;  APPLICANT:  Ghrayeb, John
;  APPLICANT:  Knight, David M.
;  APPLICANT:  Siegel, Scott
;  TITLE OF INVENTION: Anti-TNF Antibodies and Peptides of
;  TITLE OF INVENTION:  Human Tumor Necrosis Factor
;  FILE REFERENCE: 0975.1005-008
;  CURRENT APPLICATION NUMBER: US/09/756,301A
;  CURRENT FILING DATE:  2001-01-08
;  PRIOR APPLICATION NUMBER: U.S. 09/133,119
;  PRIOR FILING DATE: 1998-08-12
;  PRIOR APPLICATION NUMBER: U.S. 08/570,674
;  PRIOR FILING DATE: 1995-12-11
;  PRIOR APPLICATION NUMBER: U.S. 08/324,799
;  PRIOR FILING DATE: 1994-10-18
;  PRIOR APPLICATION NUMBER: U.S. 08/192,102
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: U.S. 08/192,861
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: U.S. 08/192,093
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: U.S. 08/010,406
;  PRIOR FILING DATE: 1993-01-29
;  PRIOR APPLICATION NUMBER: U.S. 08/013,413
;  PRIOR FILING DATE: 1993-02-02
;  PRIOR APPLICATION NUMBER: U.S. 07/943,852
;  PRIOR FILING DATE: 1992-09-11
;  PRIOR APPLICATION NUMBER: U.S. 07/853,606
;  PRIOR FILING DATE: 1992-03-18
;  PRIOR APPLICATION NUMBER: U.S.07/670,827
;  PRIOR FILING DATE: 1991-03-18
;  NUMBER OF SEQ ID NOS: 19
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 1
;   LENGTH: 157
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-09-756-301A-1

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; Sequence 1, Application US/09927703
; Patent No. US20020022720A1
; GENERAL INFORMATION:
;  APPLICANT: Le, Junming
;  APPLICANT:  Vilcek, Jan
;  APPLICANT:  Daddona, Peter
;  APPLICANT:  Ghrayeb, John
;  APPLICANT:  Knight, David M.
;  APPLICANT:  Siegel, Scott
;  TITLE OF INVENTION: Anti-TNF Antibodies and Peptides of
;  TITLE OF INVENTION:  Human Tumor Necrosis Factor
;  FILE REFERENCE: 0975.1005-013
;  CURRENT APPLICATION NUMBER: US/09/927,703
;  CURRENT FILING DATE:  2001-08-10
;  PRIOR APPLICATION NUMBER: U.S. 09/756,398
;  PRIOR FILING DATE: 2001-01-08
;  PRIOR APPLICATION NUMBER: U.S. 09/133,119
;  PRIOR FILING DATE: 1998-08-12
;  PRIOR APPLICATION NUMBER: U.S. 08/570,674
;  PRIOR FILING DATE: 1995-12-11
;  PRIOR APPLICATION NUMBER: U.S. 08/324,799
;  PRIOR FILING DATE: 1994-10-18
;  PRIOR APPLICATION NUMBER: U.S. 08/192,102
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: U.S. 08/192,861
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: U.S. 08/192,093
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: U.S. 08/010,406
;  PRIOR FILING DATE: 1993-01-29
;  PRIOR APPLICATION NUMBER: U.S. 08/013,413
;  PRIOR FILING DATE: 1993-02-02
;  PRIOR APPLICATION NUMBER: U.S. 07/943,852
;  PRIOR FILING DATE: 1992-09-11
;  PRIOR APPLICATION NUMBER: U.S. 07/853,606
;  PRIOR FILING DATE: 1992-03-18
;  PRIOR APPLICATION NUMBER: U.S. 07/670,827
;  PRIOR FILING DATE: 1991-03-18
;  NUMBER OF SEQ ID NOS: 19
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 1
;   LENGTH: 157
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-09-927-703-1

  Query Match             95.7%;  Score 779;  DB 3;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 1.7e-76;
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Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
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Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 6
US-09-854-280-19
; Sequence 19, Application US/09854280
; Patent No. US20020052027A1
; GENERAL INFORMATION:
;  APPLICANT: Chen, Jian
;  APPLICANT:  Filvaroff, Ellen
;  APPLICANT:  Goddard, Audrey
;  APPLICANT:  Gurney, Austin
;  APPLICANT:  Li, Hanzhong
;  APPLICANT:  Wood, William I.
;  TITLE OF INVENTION: IL-17 HOMOLOGOUS POLYPEPTIDES AND THERAPEUTIC USES THEREOF
;  FILE REFERENCE: P1381R1C2
;  CURRENT APPLICATION NUMBER: US/09/854,280
;  CURRENT FILING DATE:  2001-05-10
;  PRIOR APPLICATION NUMBER: US 09/311,832
;  PRIOR FILING DATE: 1999-05-14
;  PRIOR APPLICATION NUMBER: US 60/085,579
;  PRIOR FILING DATE: 1998-05-15
;  PRIOR APPLICATION NUMBER: US 60/113,621
;  PRIOR FILING DATE: 1998-12-23
;  NUMBER OF SEQ ID NOS: 26
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;   LENGTH: 157
;   TYPE: PRT
;   ORGANISM: Homo sapiens
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Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
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Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
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RESULT 7
US-09-934-465-13
; Sequence 13, Application US/09934465
; Patent No. US20020102233A1
; GENERAL INFORMATION:
;  APPLICANT: Ashkenazi, Avi J.
;  TITLE OF INVENTION: APO-2 LIGAND
;  FILE REFERENCE: 11669.22US03
;  CURRENT APPLICATION NUMBER: US/09/934,465
;  CURRENT FILING DATE:  2001-08-21
;  PRIOR APPLICATION NUMBER: 08/584,031
;  PRIOR FILING DATE: 1996-01-09
;  NUMBER OF SEQ ID NOS: 17
;  SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 13
;   LENGTH: 157
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-09-934-465-13

  Query Match             95.7%;  Score 779;  DB 3;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 1.7e-76;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              ||||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              |||| |||||||||||||||||||||||| ||||||:|||||||||||||| ||||||||
Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
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Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 8
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US-09-766-535A-1
; Sequence 1, Application US/09766535A
; Patent No. US20020106372A1
; GENERAL INFORMATION:
;  APPLICANT: Le, Junming
;  APPLICANT:  Vilcek, Jan
;  APPLICANT:  Daddona, Peter
;  APPLICANT:  Ghrayeb, John
;  APPLICANT:  Knight, David M.
;  APPLICANT:  Siegel, Scott
;  TITLE OF INVENTION: Anti-TNF Antibodies and Peptides of
;  TITLE OF INVENTION:  Human Tumor Necrosis Factor
;  FILE REFERENCE: 0975.1005-010
;  CURRENT APPLICATION NUMBER: US/09/766,535A
;  CURRENT FILING DATE:  2001-01-18
;  PRIOR APPLICATION NUMBER: U.S. 09/133,119
;  PRIOR FILING DATE: 1998-08-12
;  PRIOR APPLICATION NUMBER: U.S. 08/570,674
;  PRIOR FILING DATE: 1995-12-11
;  PRIOR APPLICATION NUMBER: U.S. 08/324,799
;  PRIOR FILING DATE: 1994-10-18
;  PRIOR APPLICATION NUMBER: U.S. 08/192,102
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: U.S. 08/192,861
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: U.S. 08/192,093
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: U.S. 08/010,406
;  PRIOR FILING DATE: 1993-01-29
;  PRIOR APPLICATION NUMBER: U.S. 08/013,413
;  PRIOR FILING DATE: 1993-02-02
;  PRIOR APPLICATION NUMBER: U.S. 07/943,852
;  PRIOR FILING DATE: 1992-09-11
;  PRIOR APPLICATION NUMBER: U.S. 07/853,606
;  PRIOR FILING DATE: 1992-03-18
;  PRIOR APPLICATION NUMBER: U.S. 07/670,827
;  PRIOR FILING DATE: 1991-03-18
;  NUMBER OF SEQ ID NOS: 19
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 1
;   LENGTH: 157
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-09-766-535A-1

  Query Match             95.7%;  Score 779;  DB 3;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 1.7e-76;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              |||| |||||||||||||||||||||| |||||||:||||||||||||| ||||||||
Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||||||||||||||||||||||||
Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 9
US-09-854-208-19
; Sequence 19, Application US/09854208
; Patent No. US20020106743A1
; GENERAL INFORMATION:
;  APPLICANT: Chen, Jian
;  APPLICANT:  Filvaroff, Ellen
;  APPLICANT:  Goddard, Audrey
;  APPLICANT:  Gurney, Austin
;  APPLICANT:  Li, Hanzhong
;  APPLICANT:  Wood, William I.
;  TITLE OF INVENTION: IL-17 HOMOLOGOUS POLYPEPTIDES AND THERAPEUTIC USES
;  TITLE OF INVENTION:  THEREOF
;  FILE REFERENCE: P1381-R1
;  CURRENT APPLICATION NUMBER: US/09/854,208
;  CURRENT FILING DATE:  2001-05-10
;  PRIOR APPLICATION NUMBER: US/09/311,832
;  PRIOR FILING DATE: 1999-05-14
;  PRIOR APPLICATION NUMBER: US 60/085,579
;  PRIOR FILING DATE: 1998-05-15
;  PRIOR APPLICATION NUMBER: US 60/113,621
;  PRIOR FILING DATE: 1998-12-23
;  NUMBER OF SEQ ID NOS: 26
; SEQ ID NO 19
;   LENGTH: 157
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-09-854-208-19

  Query Match             95.7%;  Score 779;  DB 3;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 1.7e-76;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              |||| |||||||||||||||||||||| |||||||:||||||||||||| ||||||||
Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||||||||||||||||||||||||
Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 10
US-09-756-161A-1
; Sequence 1, Application US/09756161A
; Patent No. US20020132307A1
; GENERAL INFORMATION:
;  APPLICANT: Le, Junming
;  APPLICANT:  Vilcek, Jan
;  APPLICANT:  Daddona, Peter
;  APPLICANT:  Ghrayeb, John
;  APPLICANT:  Knight, David M.
;  APPLICANT:  Siegel, Scott
;  TITLE OF INVENTION: Anti-TNF Antibodies and Peptides of
;  TITLE OF INVENTION:  Human Tumor Necrosis Factor
;  FILE REFERENCE: 0975.1005-007
;  CURRENT APPLICATION NUMBER: US/09/756,161A
;  CURRENT FILING DATE:  2001-01-08
;  PRIOR APPLICATION NUMBER: U.S. 09/133,119
;  PRIOR FILING DATE: 1998-08-12
;  PRIOR APPLICATION NUMBER: U.S. 08/570,674
;  PRIOR FILING DATE: 1995-12-11
;  PRIOR APPLICATION NUMBER: U.S. 08/324,799
;  PRIOR FILING DATE: 1994-10-18
;  PRIOR APPLICATION NUMBER: U.S. 08/192,102
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: U.S. 08/192,861
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: U.S. 08/192,093
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: U.S. 08/010,406
;  PRIOR FILING DATE: 1993-01-29
;  PRIOR APPLICATION NUMBER: U.S. 08/013,413
;  PRIOR FILING DATE: 1993-02-02
;  PRIOR APPLICATION NUMBER: U.S. 07/943,852
;  PRIOR FILING DATE: 1992-09-11
;  PRIOR APPLICATION NUMBER: U.S. 07/853,606
;  PRIOR FILING DATE: 1992-03-18
;  PRIOR APPLICATION NUMBER: U.S.07/670,827
;  PRIOR FILING DATE: 1991-03-18
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;  NUMBER OF SEQ ID NOS: 19
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 1
;   LENGTH: 157
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-09-756-161A-1

  Query Match             95.7%;  Score 779;  DB 3;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 1.7e-76;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              |||| |||||||||||||||||||||| |||||||:||||||||||||| ||||||||
Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
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Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 11
US-09-903-327A-7
; Sequence 7, Application US/09903327A
; Patent No. US20020164333A1
; GENERAL INFORMATION:
;  APPLICANT: Nemerow, Glen R.
;  APPLICANT:  Li, Erguang
;  TITLE OF INVENTION: BIFUNCTIONAL MOLECULES AND VECTORS COMPLEXED THEREWITH FOR TARGET
;  TITLE OF INVENTION:  GENE
;  TITLE OF INVENTION:  DELIVERY
;  FILE REFERENCE: 22908-1228
;  CURRENT APPLICATION NUMBER: US/09/903,327A
;  CURRENT FILING DATE:  2001-07-10
;  PRIOR APPLICATION NUMBER: 09/613,017
;  PRIOR FILING DATE: 2000-07-10
;  NUMBER OF SEQ ID NOS: 33
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 7
;   LENGTH: 157
;   TYPE: PRT
;   ORGANISM: Human
;   FEATURE:
;   NAME/KEY: PEPTIDE
;   LOCATION: (0)...(0)
;   OTHER INFORMATION: Tumor necrosis factor-alpha (TNF alpha, mature
;   OTHER INFORMATION: peptide)
US-09-903-327A-7

  Query Match             95.7%;  Score 779;  DB 3;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 1.7e-76;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              |||| |||||||||||||||||||||| |||||||:||||||||||||| ||||||||
Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
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Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 12
US-09-756-398B-1
; Sequence 1, Application US/09756398B
; Publication No. US20030017584A1
; GENERAL INFORMATION:
;  APPLICANT: Le, Junming
;  APPLICANT:  Vilcek, Jan
;  APPLICANT:  Daddona, Peter
;  APPLICANT:  Ghrayeb, John
;  APPLICANT:  Knight, David M.
;  APPLICANT:  Siegel, Scott
;  TITLE OF INVENTION: Anti-TNF Antibodies and Peptides of
;  TITLE OF INVENTION:  Human Tumor Necrosis Factor
;  FILE REFERENCE: 0975.1005-006
;  CURRENT APPLICATION NUMBER: US/09/756,398B
;  CURRENT FILING DATE:  2001-01-08
;  PRIOR APPLICATION NUMBER: U.S. 09/133,119
;  PRIOR FILING DATE: 1998-08-12
;  PRIOR APPLICATION NUMBER: U.S. 08/570,674
;  PRIOR FILING DATE: 1995-12-11
;  PRIOR APPLICATION NUMBER: U.S. 08/324,799
;  PRIOR FILING DATE: 1994-10-18
;  PRIOR APPLICATION NUMBER: U.S. 08/192,102
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: U.S. 08/192,861
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: U.S. 08/192,093
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: U.S. 08/010,406
;  PRIOR FILING DATE: 1993-01-29
;  PRIOR APPLICATION NUMBER: U.S. 08/013,413
;  PRIOR FILING DATE: 1993-02-02
;  PRIOR APPLICATION NUMBER: U.S. 07/943,852
;  PRIOR FILING DATE: 1992-09-11
;  PRIOR APPLICATION NUMBER: U.S. 07/853,606
;  PRIOR FILING DATE: 1992-03-18
;  PRIOR APPLICATION NUMBER: U.S.07/670,827
;  PRIOR FILING DATE: 1991-03-18
;  NUMBER OF SEQ ID NOS: 19
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 1
;   LENGTH: 157
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-09-756-398B-1

  Query Match             95.7%;  Score 779;  DB 3;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 1.7e-76;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              |||| |||||||||||||||||||||| |||||||:||||||||||||| ||||||||
Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
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Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 13
US-09-897-724-1
; Sequence 1, Application US/09897724
; Publication No. US20030175837A1
; GENERAL INFORMATION:
;  APPLICANT: Le, Junming
;  APPLICANT:  Vilcek, Jan
;  APPLICANT:  Daddona, Peter
;  APPLICANT:  Ghrayeb, John
;  APPLICANT:  Knight, David M.
;  APPLICANT:  Siegel, Scott
;  TITLE OF INVENTION: Anti-TNF Antibodies and Peptides of
;  TITLE OF INVENTION:  Human Tumor Necrosis Factor
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;  FILE REFERENCE: 0975.1005-012
;  CURRENT APPLICATION NUMBER: US/09/897,724
;  CURRENT FILING DATE:  2001-07-02
;  PRIOR APPLICATION NUMBER: U.S. 08/192,093
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: U.S. 08/010,406
;  PRIOR FILING DATE: 1993-01-29
;  PRIOR APPLICATION NUMBER: U.S. 08/013,413
;  PRIOR FILING DATE: 1993-02-02
;  PRIOR APPLICATION NUMBER: U.S. 07/943,852
;  PRIOR FILING DATE: 1992-09-11
;  PRIOR APPLICATION NUMBER: U.S.07/853,606
;  PRIOR FILING DATE: 1992-03-18
;  PRIOR APPLICATION NUMBER: U.S. 07/670,827
;  PRIOR FILING DATE: 1991-03-18
;  NUMBER OF SEQ ID NOS: 19
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 1
;   LENGTH: 157
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-09-897-724-1

  Query Match             95.7%;  Score 779;  DB 3;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 1.7e-76;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| |||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              |||| |||||||||||||||||||||| |||||||:||||||||||||| ||||||||
Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||||||||||||||||||||||||
Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 14
US-10-010-229-1
; Sequence 1, Application US/10010229
; Publication No. US20020114805A1
; GENERAL INFORMATION:
;  APPLICANT: Le, Junming
;  APPLICANT:  Vilcek, Jan
;  APPLICANT:  Daddona, Peter
;  APPLICANT:  Ghrayeb, John
;  APPLICANT:  Knight, David M.
;  APPLICANT:  Siegel, Scott
;  TITLE OF INVENTION: Anti-TNF Antibodies and Peptides of
;  TITLE OF INVENTION:  Human Tumor Necrosis Factor
;  FILE REFERENCE: 0975.1005-013
;  CURRENT APPLICATION NUMBER: US/10/010,229
;  CURRENT FILING DATE:  2001-12-07
;  PRIOR APPLICATION NUMBER: US/09/927,703
;  PRIOR FILING DATE: 2001-08-10
;  NUMBER OF SEQ ID NOS: 19
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 1
;   LENGTH: 157
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-10-010-229-1

  Query Match             95.7%;  Score 779;  DB 4;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 1.7e-76;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| |||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              |||| |||||||||||||||||||||| |||||||:||||||||||||| ||||||||
Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||||||||||||||||||||||||
Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 15
US-10-043-450-1
; Sequence 1, Application US/10043450
; Publication No. US20020141996A1
; GENERAL INFORMATION:
;  APPLICANT: Le, Junming
;  APPLICANT:  Vilcek, Jan
;  APPLICANT:  Daddona, Peter
;  APPLICANT:  Ghrayeb, John
;  APPLICANT:  Knight, David M.
;  APPLICANT:  Siegel, Scott
;  TITLE OF INVENTION: Anti-TNF Antibodies and Peptides of
;  TITLE OF INVENTION:  Human Tumor Necrosis Factor
;  FILE REFERENCE: 0975.1005-013
;  CURRENT APPLICATION NUMBER: US/10/043,450
;  CURRENT FILING DATE:  2002-01-10
;  PRIOR APPLICATION NUMBER: 09/927,703
;  PRIOR FILING DATE: 2001-08-10
;  PRIOR APPLICATION NUMBER: U.S. 09/756,398
;  PRIOR FILING DATE: 2001-01-08
;  PRIOR APPLICATION NUMBER: U.S. 09/133,119
;  PRIOR FILING DATE: 1998-08-12
;  PRIOR APPLICATION NUMBER: U.S. 08/570,674
;  PRIOR FILING DATE: 1995-12-11
;  PRIOR APPLICATION NUMBER: U.S. 08/324,799
;  PRIOR FILING DATE: 1994-10-18
;  PRIOR APPLICATION NUMBER: U.S. 08/192,102
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: U.S. 08/192,861
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: U.S. 08/192,093
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: U.S. 08/010,406
;  PRIOR FILING DATE: 1993-01-29
;  PRIOR APPLICATION NUMBER: U.S. 08/013,413
;  PRIOR FILING DATE: 1993-02-02
;  PRIOR APPLICATION NUMBER: U.S. 07/943,852
;  PRIOR FILING DATE: 1992-09-11
;  PRIOR APPLICATION NUMBER: U.S. 07/853,606
;  PRIOR FILING DATE: 1992-03-18
;  PRIOR APPLICATION NUMBER: U.S. 07/670,827
;  PRIOR FILING DATE: 1991-03-18
;  NUMBER OF SEQ ID NOS: 19
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 1
;   LENGTH: 157
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-10-043-450-1

  Query Match             95.7%;  Score 779;  DB 4;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 1.7e-76;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| |||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              |||| |||||||||||||||||||||| |||||||:||||||||||||| ||||||||
Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||||||||||||||||||||||||
Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
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Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157

Search completed: May  5, 2006, 11:30:23
Job time : 46.5 secs
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GenCore version 5.1.7

OM protein - protein search, using sw model

Run on: May 5, 2006, 11:26:47 ; Search time 9.75 Seconds
(without alignments)
745.303 Million cell updates/sec

Title: US-10-668-178-13
Perfect score: 814
Sequence: 1 VRSSSRTPSDMPVAHVVANP.....RPDYLDFAESGQVYFGIIAL 157

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 235405 seqs, 46284737 residues

Total number of hits satisfying chosen parameters: 235405

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : Published_Applications_AA_New:*
1: /SIDS5/ptodata/1/pubpaa/US08_NEW_PUB.pep1:*
2: /SIDS5/ptodata/1/pubpaa/US06_NEW_PUB.pep:*
3: /SIDS5/ptodata/1/pubpaa/US07_NEW_PUB.pep:*
4: /SIDS5/ptodata/1/pubpaa/US08_NEW_PUB.pep:*
5: /SIDS5/ptodata/1/pubpaa/PCT_NEW_PUB.pep:*
6: /SIDS5/ptodata/1/pubpaa/US09_NEW_PUB.pep:*
7: /SIDS5/ptodata/1/pubpaa/US09_NEW_PUB.pep1:*
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9: /SIDS5/ptodata/1/pubpaa/US10_NEW_PUB.pep1:*
10: /SIDS5/ptodata/1/pubpaa/US11_NEW_PUB.pep:*
11: /SIDS5/ptodata/1/pubpaa/US11_NEW_PUB.pep1:*
12: /SIDS5/ptodata/1/pubpaa/US60_NEW_PUB.pep:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	779	95.7	157	11	US-11-010-954-1	Sequence 1, Appli
2	779	95.7	157	11	US-11-053-750-1	Sequence 1, Appli
3	779	95.7	157	11	US-11-053-749-1	Sequence 1, Appli
4	779	95.7	157	11	US-11-108-001-12	Sequence 12, Appl
5	779	95.7	157	11	US-11-170-753-1	Sequence 1, Appli
6	779	95.7	157	11	US-11-179-359-1	Sequence 1, Appli
7	779	95.7	157	11	US-11-181-030-1	Sequence 1, Appli
8	779	95.7	157	11	US-11-182-033-1	Sequence 1, Appli
9	779	95.7	157	11	US-11-195-589-1	Sequence 1, Appli
10	779	95.7	158	11	US-11-082-544-4	Sequence 4, Appli
11	779	95.7	164	11	US-11-108-001-2	Sequence 2, Appli
12	779	95.7	170	8	US-10-490-953-35	Sequence 35, Appl
13	779	95.7	180	11	US-11-082-544-8	Sequence 8, Appli
14	779	95.7	233	9	US-10-523-328-1	Sequence 1, Appli
15	779	95.7	233	11	US-11-246-387-8	Sequence 8, Appli
16	770	94.6	157	9	US-10-504-389A-55	Sequence 55, Appl
17	634.5	77.9	235	11	US-11-032-797-8	Sequence 8, Appli
18	488	60.0	104	11	US-11-065-669-5	Sequence 5, Appli
19	488	60.0	104	11	US-11-249-714-5	Sequence 5, Appli
20	213.5	26.2	177	9	US-10-999-866-61	Sequence 61, Appl
21	213.5	26.2	205	9	US-10-995-561-1028	Sequence 1028, Ap
22	213.5	26.2	205	9	US-10-995-561-1029	Sequence 1029, Ap
23	171.5	21.1	204	11	US-11-136-341A-31	Sequence 31, Appl
24	171.5	21.1	240	11	US-11-136-341A-1	Sequence 1, Appli
25	169.5	20.8	240	9	US-10-987-663-6	Sequence 6, Appli
26	166.5	20.5	179	8	US-10-861-934-14	Sequence 14, Appl
27	166.5	20.5	179	9	US-10-861-934-14	Sequence 14, Appl
28	166.5	20.5	278	8	US-10-861-934-16	Sequence 16, Appl
29	166.5	20.5	278	8	US-10-861-934-26	Sequence 26, Appl
30	166.5	20.5	278	9	US-10-861-934-16	Sequence 16, Appl
31	166.5	20.5	278	9	US-10-861-934-26	Sequence 26, Appl
32	162	19.9	239	11	US-11-136-341A-2	Sequence 2, Appli
33	161.5	19.8	137	8	US-10-861-934-10	Sequence 10, Appl
34	161.5	19.8	137	9	US-10-861-934-10	Sequence 10, Appl
35	161.5	19.8	138	8	US-10-861-934-12	Sequence 12, Appl
36	161.5	19.8	138	9	US-10-861-934-12	Sequence 12, Appl
37	161.5	19.8	179	8	US-10-861-934-22	Sequence 22, Appl
38	161.5	19.8	179	9	US-10-861-934-22	Sequence 22, Appl
39	161.5	19.8	279	8	US-10-861-934-24	Sequence 24, Appl
40	161.5	19.8	279	8	US-10-861-934-32	Sequence 32, Appl
41	161.5	19.8	279	9	US-10-861-934-24	Sequence 24, Appl
42	161.5	19.8	279	9	US-10-861-934-32	Sequence 32, Appl
43	161.5	19.8	279	11	US-11-032-797-5	Sequence 5, Appli
44	160	19.7	239	11	US-11-136-341A-3	Sequence 3, Appli
45	157.5	19.3	137	8	US-10-861-934-18	Sequence 18, Appl

ALIGNMENTS

RESULT 1
US-11-010-954-1
; Sequence 1, Application US/11010954
; Publication No. US20050249735A1
; GENERAL INFORMATION:
; APPLICANT: Le, Junming
; APPLICANT: Vilcek, Jan
; APPLICANT: Daddona, Peter
; APPLICANT: Ghrayeb, John
; APPLICANT: Knight, David
; APPLICANT: Siegel, Scott
; APPLICANT: Shealy, David
; TITLE OF INVENTION: Methods of Treating Ankylosing Spondylitis Using Anti-TNF Antibo
; TITLE OF INVENTION: and Peptides of Human Tumor Necrosis Factor
; FILE REFERENCE: 0975.1005-043
; CURRENT APPLICATION NUMBER: US/11/010,954
; CURRENT FILING DATE: 2004-12-13
; PRIOR APPLICATION NUMBER: US 10/637,759
; PRIOR FILING DATE: 2003-08-08
; PRIOR APPLICATION NUMBER: US 09/920,137
; PRIOR FILING DATE: 2001-08-01
; PRIOR APPLICATION NUMBER: US 09/927,703
; PRIOR FILING DATE: 2001-08-10
; PRIOR APPLICATION NUMBER: US 09/756,398
; PRIOR FILING DATE: 2001-01-08
; PRIOR APPLICATION NUMBER: US 60/236,826
; PRIOR FILING DATE: 2000-09-29
; PRIOR APPLICATION NUMBER: US 60/223,360
; PRIOR FILING DATE: 2000-08-07
; NUMBER OF SEQ ID NOS: 30
; SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 1
; LENGTH: 157
; TYPE: PRT
; ORGANISM: Homo sapiens
US-11-010-954-1

Query Match 95.7%; Score 779; DB 11; Length 157;
Best Local Similarity 96.2%; Pred. No. 1.3e-75;
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

Qy 1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
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Db 1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

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RESULT 2
US-11-053-750-1
; Sequence 1, Application US/11053750
; Publication No. US20050255104A1
; GENERAL INFORMATION:
;  APPLICANT: Le, Junming
;  APPLICANT:  Vilcek, Jan
;  APPLICANT:  Daddona, Peter
;  APPLICANT:  Ghrayeb, John
;  APPLICANT:  Knight, David
;  APPLICANT:  Siegel, Scott
;  APPLICANT:  Scallon, Bernard
;  TITLE OF INVENTION: Methods of Treating Psoriasis Using
;  TITLE OF INVENTION:  Anti-TNF Receptor Fusion Proteins
;  FILE REFERENCE: 0975.1005-045
;  CURRENT APPLICATION NUMBER: US/11/053,750
;  CURRENT FILING DATE:  2005-02-07
;  PRIOR APPLICATION NUMBER: U.S. 09/927,703
;  PRIOR FILING DATE: 2001-08-10
;  PRIOR APPLICATION NUMBER: U.S. 09/756,398
;  PRIOR FILING DATE: 2001-01-08
;  PRIOR APPLICATION NUMBER: U.S. 09/133,119
;  PRIOR FILING DATE: 1998-08-12
;  PRIOR APPLICATION NUMBER: U.S. 08/570,674
;  PRIOR FILING DATE: 1995-12-11
;  PRIOR APPLICATION NUMBER: U.S. 08/324,799
;  PRIOR FILING DATE: 1994-10-18
;  PRIOR APPLICATION NUMBER: U.S. 08/192,102
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: U.S. 08/192,861
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: U.S. 08/192,093
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: U.S. 09/010,406
;  PRIOR FILING DATE: 1993-01-29
;  PRIOR APPLICATION NUMBER: U.S. 08/013,413
;  PRIOR FILING DATE: 1993-02-02
;  NUMBER OF SEQ ID NOS: 30
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 1
;   LENGTH: 157
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-11-053-750-1

  Query Match             95.7%;  Score 779;  DB 11;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 1.3e-75;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
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Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
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Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
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Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 3
US-11-053-749-1
; Sequence 1, Application US/11053749
; Publication No. US20050260201A1
; GENERAL INFORMATION:
;  APPLICANT: Le, Junming
;  APPLICANT:  Vilcek, Jan
;  APPLICANT:  Daddona, Peter
;  APPLICANT:  Ghrayeb, John
;  APPLICANT:  Knight, David
;  APPLICANT:  Siegel, Scott
;  APPLICANT:  Scallon, Bernard
;  TITLE OF INVENTION: Methods of Treating Rheumatoid Arthritis
;  TITLE OF INVENTION:  Using Anti-TNF Receptor Fusion Proteins
;  FILE REFERENCE: 0975.1005-040
;  CURRENT APPLICATION NUMBER: US/11/053,749
;  CURRENT FILING DATE:  2005-02-07
;  PRIOR APPLICATION NUMBER: US/09/927,703
;  PRIOR FILING DATE: 2001-08-10
;  PRIOR APPLICATION NUMBER: U.S. 09/927,703
;  PRIOR FILING DATE: 2001-08-10
;  PRIOR APPLICATION NUMBER: U.S. 09/756,398
;  PRIOR FILING DATE: 2001-01-08
;  PRIOR APPLICATION NUMBER: U.S. 09/133,119
;  PRIOR FILING DATE: 1998-08-12
;  PRIOR APPLICATION NUMBER: U.S. 08/570,674
;  PRIOR FILING DATE: 1995-12-11
;  PRIOR APPLICATION NUMBER: U.S. 08/324,799
;  PRIOR FILING DATE: 1994-10-18
;  PRIOR APPLICATION NUMBER: U.S. 08/192,102
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: U.S. 08/192,861
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: U.S. 08/192,093
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: U.S.08/010,406
;  PRIOR FILING DATE: 1993-01-29
;  Remaining Prior Application data removed - See File Wrapper or PALM.
;  NUMBER OF SEQ ID NOS: 30
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 1
;   LENGTH: 157
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-11-053-749-1

  Query Match             95.7%;  Score 779;  DB 11;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 1.3e-75;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
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Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
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Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
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Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 4
US-11-108-001-12
; Sequence 12, Application US/11108001
; Publication No. US20050265962A1
; GENERAL INFORMATION:
;  APPLICANT: Desjarlais, John R.
;  APPLICANT:  Steed, Paul Michael
;  APPLICANT:  Zalevsky, Jonathan
;  APPLICANT:  Szymkowski, David Edmund
;  TITLE OF INVENTION: PROTEIN BASED TNF-ALPHA VARIANTS FOR THE TREATMENT OF TNF-ALPHA
;  TITLE OF INVENTION:  RELATED DISORDERS
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; FILE REFERENCE: A-68990-7
; CURRENT APPLICATION NUMBER: US/11/108,001
; CURRENT FILING DATE: 2005-04-14
; PRIOR APPLICATION NUMBER: US 10/963,994
; PRIOR FILING DATE: 2004-10-12
; PRIOR APPLICATION NUMBER: US 09/798,789
; PRIOR FILING DATE: 2001-03-02
; PRIOR APPLICATION NUMBER: US 09/945,150
; PRIOR FILING DATE: 2001-08-31
; PRIOR APPLICATION NUMBER: US 09/981,289
; PRIOR FILING DATE: 2001-10-15
; PRIOR APPLICATION NUMBER: US 10/262,630
; PRIOR FILING DATE: 2002-09-30
; PRIOR APPLICATION NUMBER: US 60/553,908
; PRIOR FILING DATE: 2004-03-17
; PRIOR APPLICATION NUMBER: US 60/510,430
; PRIOR FILING DATE: 2003-10-10
; PRIOR APPLICATION NUMBER: US 60/509,960
; PRIOR FILING DATE: 2003-10-09
; PRIOR APPLICATION NUMBER: US 60/528,275
; PRIOR FILING DATE: 2003-12-08
; PRIOR APPLICATION NUMBER: US 60/523,647
; PRIOR FILING DATE: 2003-11-20
; Remaining Prior Application data removed - See File Wrapper or PALM.
; NUMBER OF SEQ ID NOS: 13
; SOFTWARE: PatentIn version 3.3
; SEQ ID NO 12
; LENGTH: 157
; TYPE: PRT
; ORGANISM: Homo sapiens
US-11-108-001-12

Query Match 95.7%; Score 779; DB 11; Length 157;
Best Local Similarity 96.2%; Pred. No. 1.3e-75;
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

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Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
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Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
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Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
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Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
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RESULT 5
US-11-170-753-1
; Sequence 1, Application US/11170753
; Publication No. US20060013816A1
; GENERAL INFORMATION:
; APPLICANT: Le, Junming
; APPLICANT: Vilcek, Jan
; APPLICANT: Daddona, Peter
; APPLICANT: Ghrayeb, John
; APPLICANT: Knight, David
; APPLICANT: Siegel, Scott
; TITLE OF INVENTION: Methods of Treating Psoriasis Using
; TITLE OF INVENTION: Human Anti-TNF Antibodies and Fragments
; FILE REFERENCE: 0975.1005-050
; CURRENT APPLICATION NUMBER: US/11/170,753
; CURRENT FILING DATE: 2005-06-29
; PRIOR APPLICATION NUMBER: U.S. 09/927,703
; PRIOR FILING DATE: 2001-08-10
; PRIOR APPLICATION NUMBER: U.S. 09/756,398
; PRIOR FILING DATE: 2001-01-08
; PRIOR APPLICATION NUMBER: U.S. 09/133,119
; PRIOR FILING DATE: 1998-08-12
; PRIOR APPLICATION NUMBER: U.S. 08/570,674
; PRIOR FILING DATE: 1995-12-11
; PRIOR APPLICATION NUMBER: U.S. 08/324,799
; PRIOR FILING DATE: 1994-10-18
; PRIOR APPLICATION NUMBER: U.S. 08/192,102
; PRIOR FILING DATE: 1994-02-04
; PRIOR APPLICATION NUMBER: U.S. 08/192,861
; PRIOR FILING DATE: 1994-02-04
; PRIOR APPLICATION NUMBER: U.S. 08/192,093
; PRIOR FILING DATE: 1994-02-04
; PRIOR APPLICATION NUMBER: U.S.08/010,406
; PRIOR FILING DATE: 1993-01-29
; PRIOR APPLICATION NUMBER: U.S. 08/013,413
; PRIOR FILING DATE: 1993-02-02
; Remaining Prior Application data removed - See File Wrapper or PALM.
; NUMBER OF SEQ ID NOS: 30
; SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 1
; LENGTH: 157
; TYPE: PRT
; ORGANISM: Homo sapiens
US-11-170-753-1

Query Match 95.7%; Score 779; DB 11; Length 157;
Best Local Similarity 96.2%; Pred. No. 1.3e-75;
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

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Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
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Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
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Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
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Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
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RESULT 6
US-11-179-359-1
; Sequence 1, Application US/11179359
; Publication No. US20060018905A1
; GENERAL INFORMATION:
; APPLICANT: Le, Junming
; APPLICANT: Vilcek, Jan
; APPLICANT: Daddona, Peter
; APPLICANT: Ghrayeb, John
; APPLICANT: Knight, David
; APPLICANT: Siegel, Scott
; TITLE OF INVENTION: Methods for Treating Systemic Lupus Erythematosus
; TITLE OF INVENTION: Using Anti-TNF Antibodies and Fragments Thereof
; FILE REFERENCE: 0975.1005-054
; CURRENT APPLICATION NUMBER: US/11/179,359
; CURRENT FILING DATE: 2005-07-12
; PRIOR APPLICATION NUMBER: U.S. 09/927,703
; PRIOR FILING DATE: 2001-08-10
; PRIOR APPLICATION NUMBER: U.S. 09/756,398
; PRIOR FILING DATE: 2001-01-08
; PRIOR APPLICATION NUMBER: U.S. 09/133,119
; PRIOR FILING DATE: 1998-08-12
; PRIOR APPLICATION NUMBER: U.S. 08/570,674
; PRIOR FILING DATE: 1995-12-11
; PRIOR APPLICATION NUMBER: U.S. 08/324,799
; PRIOR FILING DATE: 1994-10-18
; PRIOR APPLICATION NUMBER: U.S. 08/192,102
; PRIOR FILING DATE: 1994-02-04
; PRIOR APPLICATION NUMBER: U.S. 08/192,861
; PRIOR FILING DATE: 1994-02-04
; PRIOR APPLICATION NUMBER: U.S. 08/192,093
; PRIOR FILING DATE: 1994-02-04
; PRIOR APPLICATION NUMBER: U.S.08/010,406
; PRIOR FILING DATE: 1993-01-29
; PRIOR APPLICATION NUMBER: U.S. 08/013,413

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;  PRIOR FILING DATE: 1993-02-02
;  Remaining Prior Application data removed - See File Wrapper or PALM.
;  NUMBER OF SEQ ID NOS: 30
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 1
;   LENGTH: 157
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-11-179-359-1

  Query Match             95.7%;  Score 779;  DB 11;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 1.3e-75;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
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Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              |||| ||||||||||||||||||||||| |||||||:|||||||||||||| ||||||||
Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
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Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 7
US-11-181-030-1
; Sequence 1, Application US/11181030
; Publication No. US20060018906A1
; GENERAL INFORMATION:
;  APPLICANT: Le, Junming
;  APPLICANT:  Vilcek, Jan
;  APPLICANT:  Daddona, Peter
;  APPLICANT:  Ghrayeb, John
;  APPLICANT:  Knight, David
;  APPLICANT:  Siegel, Scott
;  TITLE OF INVENTION: Methods for Treating Sarcoidosis Using
;  TITLE OF INVENTION:  Anti-TNF Antibodies and Fragments Thereof
;  FILE REFERENCE: 0975.1005-055
;  CURRENT APPLICATION NUMBER: US/11/181,030
;  CURRENT FILING DATE:  2005-07-13
;  PRIOR APPLICATION NUMBER: U.S. 09/927,703
;  PRIOR FILING DATE: 2001-08-10
;  PRIOR APPLICATION NUMBER: U.S. 09/756,398
;  PRIOR FILING DATE: 2001-01-08
;  PRIOR APPLICATION NUMBER: U.S. 09/133,119
;  PRIOR FILING DATE: 1998-08-12
;  PRIOR APPLICATION NUMBER: U.S. 08/570,674
;  PRIOR FILING DATE: 1995-12-11
;  PRIOR APPLICATION NUMBER: U.S. 08/324,799
;  PRIOR FILING DATE: 1994-10-18
;  PRIOR APPLICATION NUMBER: U.S. 08/192,102
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: U.S. 08/192,861
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: U.S. 08/192,093
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: U.S.08/010,406
;  PRIOR FILING DATE: 1993-01-29
;  PRIOR APPLICATION NUMBER: U.S. 08/013,413
;  PRIOR FILING DATE: 1993-02-02
;  Remaining Prior Application data removed - See File Wrapper or PALM.
;  NUMBER OF SEQ ID NOS: 30
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 1
;   LENGTH: 157
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-11-181-030-1

  Query Match             95.7%;  Score 779;  DB 11;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 1.3e-75;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              |||| ||||||||||||||||||||||| |||||||:|||||||||||||| ||||||||
Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| |||||||||||||||||||||||||||||
Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 8
US-11-182-033-1
; Sequence 1, Application US/11182033
; Publication No. US20060018907A1
; GENERAL INFORMATION:
;  APPLICANT: Le, Junming
;  APPLICANT:  Vilcek, Jan
;  APPLICANT:  Daddona, Peter
;  APPLICANT:  Ghrayeb, John
;  APPLICANT:  Knight, David
;  APPLICANT:  Siegel, Scott
;  APPLICANT:  Shealy, David
;  TITLE OF INVENTION: Anti-TNF Antibodies and Peptides of Human
;  TITLE OF INVENTION:  Tumor Necrosis Factor
;  FILE REFERENCE: 0975.1005-044
;  CURRENT APPLICATION NUMBER: US/11/182,033
;  CURRENT FILING DATE:  2005-07-14
;  PRIOR APPLICATION NUMBER: US 10/637,759
;  PRIOR FILING DATE: 2003-08-08
;  PRIOR APPLICATION NUMBER: US 09/920,137
;  PRIOR FILING DATE: 2001-08-01
;  PRIOR APPLICATION NUMBER: US 09/927,703
;  PRIOR FILING DATE: 2001-08-10
;  PRIOR APPLICATION NUMBER: US 09/756,398
;  PRIOR FILING DATE: 2001-01-08
;  PRIOR APPLICATION NUMBER: US 60/236,826
;  PRIOR FILING DATE: 2000-09-29
;  PRIOR APPLICATION NUMBER: US 60/223,360
;  PRIOR FILING DATE: 2000-08-07
;  NUMBER OF SEQ ID NOS: 30
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 1
;   LENGTH: 157
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-11-182-033-1

  Query Match             95.7%;  Score 779;  DB 11;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 1.3e-75;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              |||| ||||||||||||||||||||||| |||||||:|||||||||||||| ||||||||
Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
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Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 9
US-11-195-589-1
; Sequence 1, Application US/11195589
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; Publication No. US20060024310A1
; GENERAL INFORMATION:
; APPLICANT: Le, Junming
; APPLICANT: Vilcek, Jan
; APPLICANT: Daddona, Peter
; APPLICANT: Ghrayeb, John
; APPLICANT: Knight, David
; APPLICANT: Siegel, Scott
; TITLE OF INVENTION: Methods of Treating TNFa-Mediated
; TITLE OF INVENTION: Tissue Injury Using Anti-TNF Antibodies and Peptides
; FILE REFERENCE: 0975.1005-042
; CURRENT APPLICATION NUMBER: US/11/195,589
; CURRENT FILING DATE: 2005-08-02
; PRIOR APPLICATION NUMBER: US 09/927,703
; PRIOR FILING DATE: 2001-08-10
; PRIOR APPLICATION NUMBER: US 09/756,398
; PRIOR FILING DATE: 2001-01-08
; PRIOR APPLICATION NUMBER: US 09/133,119
; PRIOR FILING DATE: 1998-08-12
; PRIOR APPLICATION NUMBER: US 08/570,674
; PRIOR FILING DATE: 1995-12-11
; PRIOR APPLICATION NUMBER: US 08/324,799
; PRIOR FILING DATE: 1994-10-18
; PRIOR APPLICATION NUMBER: US 08/192,102
; PRIOR FILING DATE: 1994-02-04
; PRIOR APPLICATION NUMBER: US 08/192,861
; PRIOR FILING DATE: 1994-02-04
; PRIOR APPLICATION NUMBER: US 08/192,093
; PRIOR FILING DATE: 1994-02-04
; PRIOR APPLICATION NUMBER: US 08/010,406
; PRIOR FILING DATE: 1993-01-29
; PRIOR APPLICATION NUMBER: US 08/013,413
; PRIOR FILING DATE: 02-02-1993
; Remaining Prior Application data removed - See File Wrapper or PALM.
; NUMBER OF SEQ ID NOS: 30
; SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 1
; LENGTH: 157
; TYPE: PRT
; ORGANISM: Homo sapiens
US-11-195-589-1

Query Match 95.7%; Score 779; DB 11; Length 157;
Best Local Similarity 96.2%; Pred. No. 1.3e-75;
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

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Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              |||| |||||||||||||||||||||| |||||||:||||||||||||| ||||||||
Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
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Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
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RESULT 10
US-11-082-544-4
; Sequence 4, Application US/11082544
; Publication No. US20050249706A1
; GENERAL INFORMATION:
; APPLICANT: Bermudes, G.
; APPLICANT: King, I.
; APPLICANT: Clairmont, C.
; APPLICANT: Lin, S.
; APPLICANT: Belcourt, M.
; TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR
; TITLE OF INVENTION: TUMOR-TARGETED DELIVERY OF EFFECTOR MOLECULES
; FILE REFERENCE: 8002-059
; CURRENT APPLICATION NUMBER: US/11/082,544
; CURRENT FILING DATE: 2005-03-17
; PRIOR APPLICATION NUMBER: US/09/645,415
; PRIOR FILING DATE: 2000-08-24
; PRIOR APPLICATION NUMBER: 60/157,581
; PRIOR FILING DATE: 1999-10-04
; PRIOR APPLICATION NUMBER: 60/157,637
; PRIOR FILING DATE: 1999-10-04
; NUMBER OF SEQ ID NOS: 61
; SOFTWARE: FastSEQ for Windows Version 3.0
; SEQ ID NO 4
; LENGTH: 158
; TYPE: PRT
; ORGANISM: Homo sapiens
US-11-082-544-4

Query Match 95.7%; Score 779; DB 11; Length 158;
Best Local Similarity 96.2%; Pred. No. 1.3e-75;
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

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Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||
Db          2 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 61

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              |||| |||||||||||||||||||||| |||||||:||||||||||||| ||||||||
Db         62 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 121

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||||||||||||||||||||||||
Db        122 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 158
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RESULT 11
US-11-108-001-2
; Sequence 2, Application US/11108001
; Publication No. US20050265962A1
; GENERAL INFORMATION:
; APPLICANT: Desjarlais, John R.
; APPLICANT: Steed, Paul Michael
; APPLICANT: Zalevsky, Jonathan
; APPLICANT: Szymkowski, David Edmund
; TITLE OF INVENTION: PROTEIN BASED TNF-ALPHA VARIANTS FOR THE TREATMENT OF TNF-ALPHA
; TITLE OF INVENTION: RELATED DISORDERS
; FILE REFERENCE: A-68990-7
; CURRENT APPLICATION NUMBER: US/11/108,001
; CURRENT FILING DATE: 2005-04-14
; PRIOR APPLICATION NUMBER: US 10/963,994
; PRIOR FILING DATE: 2004-10-12
; PRIOR APPLICATION NUMBER: US 09/798,789
; PRIOR FILING DATE: 2001-03-02
; PRIOR APPLICATION NUMBER: US 09/945,150
; PRIOR FILING DATE: 2001-08-31
; PRIOR APPLICATION NUMBER: US 09/981,289
; PRIOR FILING DATE: 2001-10-15
; PRIOR APPLICATION NUMBER: US 10/262,630
; PRIOR FILING DATE: 2002-09-30
; PRIOR APPLICATION NUMBER: US 60/553,908
; PRIOR FILING DATE: 2004-03-17
; PRIOR APPLICATION NUMBER: US 60/510,430
; PRIOR FILING DATE: 2003-10-10
; PRIOR APPLICATION NUMBER: US 60/509,960
; PRIOR FILING DATE: 2003-10-09
; PRIOR APPLICATION NUMBER: US 60/528,275
; PRIOR FILING DATE: 2003-12-08
; PRIOR APPLICATION NUMBER: US 60/523,647
; PRIOR FILING DATE: 2003-11-20
; Remaining Prior Application data removed - See File Wrapper or PALM.
; NUMBER OF SEQ ID NOS: 13
; SOFTWARE: PatentIn version 3.3
; SEQ ID NO 2
; LENGTH: 164
; TYPE: PRT
; ORGANISM: Homo sapiens

US-11-108-001-2

Query Match 95.7%; Score 779; DB 11; Length 164;
Best Local Similarity 96.2%; Pred. No. 1.4e-75;
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

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Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||
Db          8 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 67

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
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Db         68 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 127

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||||||||||||||||||||||||
Db        128 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 164
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RESULT 12
US-10-490-953-35
; Sequence 35, Application US/10490953
; Publication No. US20060088908A1
; GENERAL INFORMATION:
; APPLICANT: SKERRA, ARNE
; APPLICANT: SCHLEHUBER, STEFFEN
; TITLE OF INVENTION: MUTEINS OF HUMAN NEUTROPHIL GELATINASE-ASSOCIATED LIPOCALIN AND
; TITLE OF INVENTION: RELATED PROTEINS
; FILE REFERENCE: 029029-0104
; CURRENT APPLICATION NUMBER: US/10/490,953
; CURRENT FILING DATE: 2004-03-29
; PRIOR APPLICATION NUMBER: PCT/EP02/10490
; PRIOR FILING DATE: 2002-09-18
; PRIOR APPLICATION NUMBER: PCT/EP02/04223
; PRIOR FILING DATE: 2002-04-16
; PRIOR APPLICATION NUMBER: PCT/EP01/11213
; PRIOR FILING DATE: 2001-09-27
; NUMBER OF SEQ ID NOS: 39
; SOFTWARE: PatentIn version 3.2
; SEQ ID NO 35
; LENGTH: 170
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Description of Artificial Sequence: Synthetic
; OTHER INFORMATION: amino acid sequence
; FEATURE:
; NAME/KEY: CHAIN
; LOCATION: (1)..(170)
; OTHER INFORMATION: fusion protein of tumor necrosis factor alpha and
; OTHER INFORMATION: affinity tag
; FEATURE:
; NAME/KEY: MISC_FEATURE
; LOCATION: (1)..(13)
; OTHER INFORMATION: Affinity tag Arg-Gly-Ser-His(6)-Gly(3)
; FEATURE:
; NAME/KEY: MISC_FEATURE
; LOCATION: (14)..(170)
; OTHER INFORMATION: mature tumor necrosis factor alpha
US-10-490-953-35

Query Match 95.7%; Score 779; DB 8; Length 170;
Best Local Similarity 96.2%; Pred. No. 1.5e-75;
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

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Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||
Db         14 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 73

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              |||| |||||||||||||||||||||||| ||||||:||||||||||||| ||||||||
Db         74 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 133

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||||||||||||||||||||||||
Db        134 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 170
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RESULT 13
US-11-082-544-8
; Sequence 8, Application US/11082544
; Publication No. US20050249706A1
; GENERAL INFORMATION:
; APPLICANT: Bermudes, G.
; APPLICANT: King, I.
; APPLICANT: Clairmont, C.
; APPLICANT: Lin, S.
; APPLICANT: Belcourt, M.
; TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR
; TITLE OF INVENTION: TUMOR-TARGETED DELIVERY OF EFFECTOR MOLECULES
; FILE REFERENCE: 8002-059
; CURRENT APPLICATION NUMBER: US/11/082,544
; CURRENT FILING DATE: 2005-03-17
; PRIOR APPLICATION NUMBER: US/09/645,415
; PRIOR FILING DATE: 2000-08-24
; PRIOR APPLICATION NUMBER: 60/157,581
; PRIOR FILING DATE: 1999-10-04
; PRIOR APPLICATION NUMBER: 60/157,637
; PRIOR FILING DATE: 1999-10-04
; NUMBER OF SEQ ID NOS: 61
; SOFTWARE: FastSEQ for Windows Version 3.0
; SEQ ID NO 8
; LENGTH: 180
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Fusion construct
US-11-082-544-8

Query Match 95.7%; Score 779; DB 11; Length 180;
Best Local Similarity 96.2%; Pred. No. 1.6e-75;
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

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Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
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Db         24 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 83

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              |||| |||||||||||||||||||||||| ||||||:||||||||||||| ||||||||
Db         84 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 143

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||||||||||||||||||||||||
Db        144 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 180
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RESULT 14
US-10-523-328-1
; Sequence 1, Application US/10523328
; Publication No. US20060078944A1
; GENERAL INFORMATION:
; APPLICANT: Kuai, Jun
; APPLICANT: Lin, Lih-Ling
; APPLICANT: Wooters, Joseph L.
; APPLICANT: Nickbarg, Elliot
; TITLE OF INVENTION: METHODS AND REAGENTS RELATING TO INFLAMMATION AND APOPTOSIS
; FILE REFERENCE: WYTH-P01-001
; CURRENT APPLICATION NUMBER: US/10/523,328
; CURRENT FILING DATE: 2005-02-01
; PRIOR APPLICATION NUMBER: 60/400,410
; PRIOR FILING DATE: 2002-08-01
; NUMBER OF SEQ ID NOS: 20
; SOFTWARE: PatentIn version 3.2
; SEQ ID NO 1
; LENGTH: 233
; TYPE: PRT

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;   ORGANISM: Homo sapiens
US-10-523-328-1

  Query Match             95.7%;  Score 779;  DB 9;  Length 233;
  Best Local Similarity   96.2%;  Pred. No. 2.2e-75;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||
Db         77 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 136

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              |||| |||||||||||||||||||||| |||||||:||||||||||||| ||||||||
Db        137 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 196

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||||||||||||||||||||||||
Db        197 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 233


RESULT 15
US-11-246-387-8
; Sequence 8, Application US/11246387
; Publication No. US20060078994A1
; GENERAL INFORMATION:
;  APPLICANT: Argos Therapeutics, Inc.
;  APPLICANT:  Kirin Beer Kabushiki Kaisha
;  APPLICANT:  Healey, Don
;  APPLICANT:  Tcherepanova, Irina
;  APPLICANT:  Adams, Melissa
;  APPLICANT:  Hinohara, Atsushi
;  TITLE OF INVENTION: MATURE DENDRITIC CELL COMPOSITIONS AND METHODS FOR CULTURING SAME
;  FILE REFERENCE: MER030
;  CURRENT APPLICATION NUMBER: US/11/246,387
;  CURRENT FILING DATE:  2005-10-07
;  PRIOR APPLICATION NUMBER: US 60/522,512
;  PRIOR FILING DATE: 2004-10-07
;  NUMBER OF SEQ ID NOS: 26
;  SOFTWARE: PatentIn version 3.3
; SEQ ID NO 8
;   LENGTH: 233
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-11-246-387-8

  Query Match             95.7%;  Score 779;  DB 11;  Length 233;
  Best Local Similarity   96.2%;  Pred. No. 2.2e-75;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDMPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||
Db         77 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 136

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
              |||| |||||||||||||||||||||| |||||||:||||||||||||| ||||||||
Db        137 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 196

Qy        121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||||||||||||||||||||||||
Db        197 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 233


Search completed: May  5, 2006, 11:28:33
Job time : 9.75 secs
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GenCore version 5.1.7

OM protein - protein search, using sw model

Run on: May 5, 2006, 11:21:07 ; Search time 74.25 Seconds
(without alignments)
929.057 Million cell updates/sec

Title: US-10-668-178-15
Perfect score: 806
Sequence: 1 VRSSSRTPSDAPVAHVVANP.....RPDYLDFAESGQVYFGIIAL 157

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 2443163 seqs, 439378781 residues

Total number of hits satisfying chosen parameters: 2443163

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : A_Geneseq_21:*
1: geneseqp1980s:*
2: geneseqp1990s:*
3: geneseqp2000s:*
4: geneseqp2001s:*
5: geneseqp2002s:*
6: geneseqp2003as:*
7: geneseqp2003bs:*
8: geneseqp2004s:*
9: geneseqp2005s:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	778	96.5	157	2	AAR62465	Aar62465 Tumour ne
2	778	96.5	157	8	ADH10159	Adh10159 Human tum
3	777	96.4	157	1	AAP60524	Aap60524 Sequence
4	777	96.4	157	1	AAP70095	Aap70095 Tumour ne
5	777	96.4	157	1	AAP70144	Aap70144 Amino aci
6	777	96.4	157	2	AAR14270	Aar14270 Human TNF
7	777	96.4	157	2	AAR14112	Aar14112 Neutrophi
8	777	96.4	157	2	AAR27747	Aar27747 Human tum
9	777	96.4	157	2	AAR42679	Aar42679 Human Tum
10	777	96.4	157	2	AAR38069	Aar38069 Human TNF
11	777	96.4	157	2	AAR62463	Aar62463 Tumour ne
12	777	96.4	157	2	AAR60243	Aar60243 Human TNF
13	777	96.4	157	2	AAR57437	Aar57437 Human tum
14	777	96.4	157	2	AAW28530	Aaw28530 Human TNF
15	777	96.4	157	2	AAW40819	Aaw40819 Human tum
16	777	96.4	157	2	ABB08912	Abb08912 Human tum
17	777	96.4	157	2	AAY23242	Aay23242 Human tum
18	777	96.4	157	4	AAG79124	Aag79124 Amino aci
19	777	96.4	157	4	AAE10848	Aae10848 Human tum
20	777	96.4	157	4	AAG67761	Aag67761 Amino aci
21	777	96.4	157	4	AAB74783	Aab74783 Wild type
22	777	96.4	157	5	AAE18373	Aae18373 Human mat
23	777	96.4	157	5	AAM51166	Aam51166 Tumour ne
24	777	96.4	157	5	ABB76561	Abb76561 Human tum
25	777	96.4	157	5	ABG70571	Abg70571 Human tum
26	777	96.4	157	5	ABP54869	Abp54869 Human tum
27	777	96.4	157	5	AAB47940	Aab47940 Human tum
28	777	96.4	157	5	ABP54787	Abp54787 Human tum
29	777	96.4	157	5	ABG76348	Abg76348 Human ful
30	777	96.4	157	6	ABU09888	Abu09888 Human tum
31	777	96.4	157	6	ABG72947	Abg72947 Human tum
32	777	96.4	157	6	ABG75765	Abg75765 Human TNF
33	777	96.4	157	6	ABG75772	Abg75772 Human TNF
34	777	96.4	157	6	ABU63586	Abu63586 Human tum
35	777	96.4	157	7	ADC46568	Adc46568 Human tum
36	777	96.4	157	7	ADC61354	Adc61354 Human TNF
37	777	96.4	157	7	ADC81608	Adc81608 Human tum
38	777	96.4	157	7	ADD44654	Add44654 Human tum
39	777	96.4	157	7	ADD89878	Add89878 Human tum
40	777	96.4	157	7	ADE06773	Ade06773 Human ant
41	777	96.4	157	7	ABW02400	Abw02400 Human tum
42	777	96.4	157	7	ADE96348	Ade96348 Human tum
43	777	96.4	157	7	ABW02035	Abw02035 Human tum
44	777	96.4	157	7	ADF91146	Adf91146 Human tum
45	777	96.4	157	7	ADG27428	Adg27428 Human tum

ALIGNMENTS

RESULT 1
AAR62465
ID AAR62465 standard; protein; 157 AA.
XX
AC AAR62465;
XX
DT 25-MAR-2003 (revised)
DT 05-JUN-1995 (first entry)
XX
DE Tumour necrosis factor-alpha mutein K65A.
XX
KW Human; tumour necrosis factor; TNF; TNF-a; expression; mutein; mutation;
KW receptor; affinity; therapeutic; diagnostic; cancer therapy; cancer;
KW obesity; septic shock; meningitis.
XX
OS Synthetic.
XX
FH Key Location/Qualifiers
FT Misc-difference 65
FT /label= Lys to Ala
XX
PN EP619372-A1.
XX
PD 12-OCT-1994.
XX
PF 17-MAR-1994; 94EP-00104154.
XX
PR 29-MAR-1993; 93EP-00810224.
XX
PA (HOFF) HOFFMANN LA ROCHE & CO AG F.
XX
PI Banner D, Lesslauer W, Loetscher H, Stueber D;
XX
DR WPI; 1994-311810/39.
DR N-PSDB; AAQ87684.
XX
PT New human TNF-a muteins with higher affinity for p75-TNFR - useful e.g.
PT for cancer therapy, treatment of obesity and toxic shock.
XX
PS Claim 4; Page 15; 53pp; English.
XX
CC The amino acid sequence of the mutated human tumour necrosis factor alpha
CC (TNF-a). The mutein differs from the wild type at position 65 with a
CC change from a Lys residue to a Ala residue. The gene encoding the protein
CC is placed in the expression plasmid pDS56/RBSII and called
CC pDS56/RBSII,SphI-TNFa(K65A). The expression of the wild type or mutein
CC proteins is regulated by the lac repressor present on the plasmid pREP4.

```
CC   The gene encoding the protein is mutated at specific sites resulting in a
CC   series of mutated proteins (AAR62464-83 and AAR63093-103). The biological
CC   activities of TNF are mediated via specific receptors of mol. wt. 55 and
CC   75 kDa called p55-TNF-R and p75-TNF-R respectively. The mutated proteins
CC   presented have a higher affinity for the human p75-TNF receptor than for
CC   the p55-TNF receptor. The mutated proteins can be used in a variety of
CC   therapeutic or diagnostic applications including cancer therapy,
CC   treatment of obesity, septic shock or bacterial meningitis. (Updated on
CC   25-MAR-2003 to correct PN field.)
XX
SQ   Sequence 157 AA;

  Query Match             96.5%;  Score 778;  DB 2;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 1.4e-71;
  Matches  151;  Conservative    2;  Mismatches    4;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              ||||:|||||||||||||||||||||:||||||| |||||||||||| ||||||||
Db         61 QVLFAGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||||||||||||||||||||||||
Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 2
ADH10159
ID   ADH10159 standard; protein; 157 AA.
XX
AC   ADH10159;
XX
DT   11-MAR-2004  (first entry)
XX
DE   Human tumour necrosis factor variant protein.
XX
KW   TNF; tumour necrosis factor; polyethylene glycol; cytostatic; cancer;
KW   human; variant.
XX
OS   Homo sapiens.
XX
FH   Key             Location/Qualifiers
FT   Misc-difference 11
FT                   /label= Asp, Ala, Arg, Ser, Thr, Pro, Met or Leu
FT   Misc-difference 65
FT                   /label= Asp, Ala, Arg, Ser, Thr, Pro, Met or Leu
FT   Misc-difference 90
FT                   /label= Asp, Ala, Arg, Ser, Thr, Pro, Met or Leu
FT   Misc-difference 98
FT                   /label= Asp, Ala, Arg, Ser, Thr, Pro, Met or Leu
FT   Misc-difference 112
FT                   /label= Asp, Ala, Arg, Ser, Thr, Pro, Met or Leu
FT   Misc-difference 128
FT                   /label= Asp, Ala, Arg, Ser, Thr, Pro, Met or Leu
XX
PN   EP1354893-A2.
XX
PD   22-OCT-2003.
XX
PF   30-JAN-2003; 2003EP-00250587.
XX
PR   25-MAR-2002; 2002JP-00083509.
PR   26-JUN-2002; 2002JP-00185387.
XX
PA   (HAYB ) HAYASHIBARA SEIBUTSU KAGAKU.
PA   (MAYU/) MAYUMI T.
PA   (TSUT/) TSUTSUMI Y.
PA   (NAKA/) NAKAGAWA S.
XX
PI   Mayumi T,  Tsutsumi Y,  Nakagawa S,  Ikegami H;
XX
DR   WPI; 2004-063952/07.
XX
PT   A physiologically active complex which comprises a protein part with
PT   tumor necrosis factor activity and a high molecular part has higher
PT   stability and retention in living bodies and is useful to treat disease,
PT   particularly cancer.
XX
PS   Claim 2; SEQ ID NO 2; 18pp; English.
XX
CC   The present sequence represents a physiologically active complex which
CC   comprises a proteinaceous part with tumour necrosis factor (TNF) activity
CC   and a high molecular part bound artificially to the N-terminus of the
CC   proteinaceous part. The proteinaceous part comprises the sequence
CC   selected from ADH10159 and the molecular part has a molecular weight of
CC   500-5000 Da and is a homopolymer of polyethylene glycol or a copolymer of
CC   ethylene glycol and its derivatives. The invention is used to treat
CC   susceptive disease, particularly cancer. The complex has a higher
CC   stability and longer retention time in living bodies than intact tumour
CC   necrosis factor. The present sequence represents a human TNF variant
CC   protein.
XX
SQ   Sequence 157 AA;

  Query Match             96.5%;  Score 778;  DB 8;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 1.4e-71;
  Matches  151;  Conservative    0;  Mismatches    6;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDXPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| ||||||||||||||||||||||| ||||||| |||||||||||| ||||||||
Db         61 QVLFXGQGCPSTHVLLTHTISRIAVSYQTXVNLLSAIXSPCQRETPEGAEAXPWYEPIYL 120

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||||||||||||||||||||||||
Db        121 GGVFQLEXGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 3
AAP60524
ID   AAP60524 standard; protein; 157 AA.
XX
AC   AAP60524;
XX
DT   25-MAR-2003  (revised)
DT   07-AUG-1991  (first entry)
XX
DE   Sequence of tumour necrosis factor (TNF).
XX
KW   Anticancer agent; antitumour; antimalarial; tumour necrosis factor.
XX
OS   Oryctolagus cuniculus.
XX
PN   WO8603751-A.
XX
PD   03-JUL-1986.
XX
PF   19-DEC-1985;   85WO-EP000721.
XX
PR   21-DEC-1984;   84US-00684595.
PR   09-OCT-1985;   85US-00785847.
PR   09-OCT-1986;   86WO-US002133.
XX
PA   (BIOJ ) BIOGEN NV.
PA   (FIER/) FIERS W C.
PA   (ALLE/) ALLET B.
PA   (BIOJ ) BIOGEN INC.
XX
PI   Fiers WC,  Fransen LM,  Tavernier JHL,  Marmenout ALM,  Vanderheyd J;
PI   Allet B;
```

XX
DR WPI; 1986-182891/28.
DR N-PSDB; AAN60442.
XX
PT Mammalian tumour necrosis factors - produced by culturing pro-karyotic
PT hosts transformed with recombinant DNA.
XX
PS Claim 11; Page 66; 93pp; English.
XX
CC TNF-like polypeptides and compsns. are produced by the fermentation of
CC host cells transformed with at least one DNA sequence which codes for a
CC mammalian TNF-like polypeptide operatively linked to an expression
CC control sequence in the transformed host. (Updated on 25-MAR-2003 to
CC correct PA field.)
XX
SQ Sequence 157 AA;

Query Match 96.4%; Score 777; DB 1; Length 157;
Best Local Similarity 96.2%; Pred. No. 1.8e-71;
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

Qy 1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
Db 1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy 61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
Db 61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy 121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
Db 121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157

RESULT 4
AAP70095
ID AAP70095 standard; protein; 157 AA.
XX
AC AAP70095;
XX
DT 04-APR-1991 (first entry)
XX
DE Tumour necrosis factor.
XX
KW Plasmid; tumour necrosis factor; antitumour agent.
XX
OS Escherichia coli.
XX
PN EP220482-A.
XX
PD 06-MAY-1987.
XX
PF 19-SEP-1986; 86EP-00112941.
XX
PR 30-SEP-1985; 85JP-00217740.
XX
PA (SUNR) SUNTORY LTD.
XX
PI Oshima T, Tanaka S, Matsukura S;
XX
DR WPI; 1987-124161/18.
XX
PT New plasmid for efficient tumour necrosis factor prodn. - comprises
PT plasmid with DNA fragment having phage-gene derived promoter region and E
PT coli derived transcription termination sequence.
XX
PS Claim 6; Page 17-18; 31pp; English.
XX
CC Tumour necrosis factor can be expressed using a plasmid comprising a
CC phage gene-derived promoter region upstream of the TNF structural gene
CC and an E.coli trp a gene terminator joined immediately downstream of a
CC base sequence encoding the termination of translation of the structural
CC gene. The plasmid is capable of efficient expression of TNF on a large
CC scale and with high purity. The transformants may achieve a TNF activity
CC 40-300 times as great as with prior transformants. TNF may comprise at
CC least 40% of total cell protein. The plasmid lacks a pBR322 derived
CC repressor of primer gene. TNF is an antitumour agent
XX
SQ Sequence 157 AA;

Query Match 96.4%; Score 777; DB 1; Length 157;
Best Local Similarity 96.2%; Pred. No. 1.8e-71;
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

Qy 1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
Db 1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy 61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
Db 61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy 121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
Db 121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157

RESULT 5
AAP70144
ID AAP70144 standard; protein; 157 AA.
XX
AC AAP70144;
XX
DT 03-OCT-2002 (revised)
DT 13-MAY-1991 (first entry)
XX
DE Amino acid sequence of mature tumour necrosis factor (TNF).
XX
KW Tumour necrosis factor analogue; lymphokine; anti-tumour.
XX
OS Homo sapiens.
XX
PN EP220966-A.
XX
PD 06-MAY-1987.
XX
PF 30-OCT-1986; 86EP-00308484.
XX
PR 30-OCT-1985; 85US-00792815.
PR 22-MAY-1986; 86US-00866213.
XX
PA (CETU) CETUS CORP.
XX
PI Lin LSL, Dorin G, Yamamoto R, Hanisch WH, Thomson JW, Wolfe SN;
XX
DR WPI; 1987-124486/18.
XX
PT Purified recombinant tumour necrosis factor compsn. - obtd. by using a
PT hydrophobic matrix to retain the factor followed by chromatographic
PT elution.
XX
PS Disclosure; Fig 3; 25pp; English.
XX
CC Specific examples of TNF analogues include N-terminally deleted species
CC of the protein, including those having deletions of the N-terminal
CC 1,2,3,4,5,6,7,8,9,10,14, and 31 AA's of the SQ in AAP70144. Muteins
CC lacking up to and including the first ten AA's at the N-terminus have
CC been found to have comparable or greater specific activities as compared
CC to the TNF of the SQ shown in AAP70144. Other muteins of TNF covered by
CC the method of the invention include species of TNF in which any or all of
CC the cysteine residues have been converted to serine or other neutral AA's
CC for example, glycine or alanine. In general, neutral AA replacements of
CC the cysteine at position 69 result in active TNF proteins. It appears
CC that the cysteine at position 101 is also dispensable. (Updated on 03-OCT
CC -2002 to add missing OS field.)
XX

```
SQ   Sequence 157 AA;

  Query Match             96.4%;  Score 777;  DB 1;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 1.8e-71;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| |||||||||||||||||||||||:||||||| ||||||||||||| ||||||||
Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||||||||||||||||||||||||
Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 6
AAR14270
ID   AAR14270 standard; peptide; 157 AA.
XX
AC   AAR14270;
XX
DT   09-JAN-1992  (first entry)
XX
DE   Human TNF.
XX
KW   Tumour necrosis factor; cytotoxic; metastasis.
XX
OS   Homo sapiens.
XX
FH   Key             Location/Qualifiers
FT   Peptide         1. .18
FT                   /label= #301
FT   Peptide         13. .26
FT                   /label= #306
FT   Peptide         22. .40
FT                   /label= #307
FT   Peptide         43. .58
FT                   /label= #302
FT                   /note= " claim 2 "
FT   Peptide         54. .68
FT                   /label= #308
FT                   /note= " claim 3"
FT   Peptide         63. .83
FT                   /label= #304
FT   Peptide         70. .80
FT                   /note= " claim 7 "
FT   Peptide         73. .94
FT                   /label= #309
FT                   /note= " claim 5 "
FT   Peptide         79. .89
FT                   /label= #323
FT   Peptide         81. .94
FT                   /note= " claim 6 "
FT   Peptide         94. .109
FT                   /label= #303
FT   Peptide         111. .120
FT                   /label= #275
FT   Peptide         132. .150
FT                   /label= #305
FT                   /note= " claim 4 "
XX
PN   WO9114702-A.
XX
PD   03-OCT-1991.
XX
PF   19-MAR-1990;   90AU-00009156.
XX
PR   19-MAR-1990;   90AU-00009156.
PR   22-NOV-1990;   90AU-00003477.
XX
PA   (PEPT-) PEPTIDE TECHN LTD.
XX
PI   Rathjen D,  Aston R;
XX
DR   WPI; 1991-310534/42.
XX
PT   New cytotoxic and/or proliferation-inhibiting polypeptide fragments -
PT   useful in treatment of tumours with reduced side effects.
XX
PS   Claim 1; Fig 1; 35pp; English.
XX
CC   The peptide fragments indicated in the feature table have cytotoxic
CC   and/or inhibition of proliferation effects on tumour cells. The peptides
CC   may be co-administered with whole TNF alpha or with a cyto-toxic drug
XX
SQ   Sequence 157 AA;

  Query Match             96.4%;  Score 777;  DB 2;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 1.8e-71;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| |||||||||||||||||||||||:||||||| ||||||||||||| ||||||||
Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||||||||||||||||||||||||
Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 7
AAR14112
ID   AAR14112 standard; peptide; 157 AA.
XX
AC   AAR14112;
XX
DT   11-DEC-1991  (first entry)
XX
DE   Neutrophil stimulating peptide.
XX
KW   hTNF; AIDS; cancer; inflammatory syndromes; rheumatoid arthritis;
KW   adult respiratory distress syndrome; human tumour necrosis factor.
XX
OS   Synthetic.
XX
FH   Key             Location/Qualifiers
FT   Peptide         1. .18
FT                   /label= peptide 301
FT   Peptide         13. .26
FT                   /label= peptide 306
FT   Peptide         22. .40
FT                   /label= peptide 307
FT   Peptide         43. .58
FT                   /label= peptide 302
FT   Peptide         54. .68
FT                   /label= peptide 308
FT                   /note= "neutrophil stimulating activity and selective
FT                   effects on neutrophil degranulation"
FT   Peptide         63. .83
FT                   /label= peptide 304
FT                   /note= "neutrophil stimulating activity"
FT   Peptide         70. .80
FT                   /label= peptide 395
FT                   /note= "neutrophil stimulating activity"
FT   Peptide         73. .94
FT                   /label= peptide 309
FT                   /note= "neutrophil stimulating activity"
FT   Peptide         76. .84
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```
FT                   /label= peptide 393
FT   Peptide         79. .89
FT                   /label= peptide 323
FT   Peptide         81. .94
FT                   /label= peptide 394
FT   Peptide         84. .94
FT                   /label= peptide 396
FT   Peptide         94. .109
FT                   /label= peptide 303
FT   Peptide         111. .120
FT                   /label= peptide 275
FT   Peptide         132. .150
FT                   /label= peptide 305
XX
PN   WO9113908-A.
XX
PD   19-SEP-1991.
XX
PF   12-MAR-1990;   90AU-00009065.
XX
PR   12-MAR-1990;   90AU-00009065.
XX
PA   (PEPT-) PEPTIDE TECHN LTD.
XX
PI   Rathjen DA,  Ferrante A;
XX
DR   WPI; 1991-295580/40.
XX
PT   New neutrophil stimulating peptide(s) derived from human TNF - useful for
PT   treating depressed neutrophil function in e.g. AIDS and cancer, and
PT   inflammatory syndrome in e.g. rheumatoid arthritis.
XX
PS   Disclosure; Fig 1; 27pp; English.
XX
CC   The amino acid sequence codes for human tumour necrosis factor. Peptides
CC   derived from this sequence have neutrophil stimulating activity. The
CC   peptides were synthesised using the Fmoc-polyamide method of solid
CC   peptide synthesis. Treatment with the peptides can be used to restore
CC   depressed or aberrant neutrophil activity without causing the side
CC   effects associated with the therapeutic use of the whole TNF molecule.
CC   Such peptides can be used in the treatment of individuals suffering from
CC   AIDS, cancer or inflammatory syndromes e.g. rheumatoid arthritis or adult
CC   respiratory distress syndrome
XX
SQ   Sequence 157 AA;

  Query Match             96.4%;  Score 777;  DB 2;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 1.8e-71;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| |||||||||||||||||||||:|||||||| |||||||||||||| ||||||||
Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||||||||||||||||||||||||
Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 8
AAR27747
ID   AAR27747 standard; protein; 157 AA.
XX
AC   AAR27747;
XX
DT   25-MAR-2003  (revised)
DT   03-MAR-1993  (first entry)
XX
DE   Human tumour necrosis factor alpha.
XX
KW   hTNF; monoclonal antibody; sepsis syndrome, cachexia, microbial;
KW   infection; rheumatoid arthritis; inflammation.
XX
OS   Homo sapiens.
XX
FH   Key             Location/Qualifiers
FT   Region          1. .20
FT                   /note= "putative receptor binding portion"
FT   Region          11. .13
FT                   /note= "putative receptor binding portion"
FT   Region          37. .42
FT                   /note= "putative receptor binding portion"
FT   Region          49. .57
FT                   /note= "putative receptor binding portion"
FT   Region          59. .80
FT                   /note= "epitope for Ab binding"
FT   Region          87. .108
FT                   /note= "epitope for Ab binding"
FT   Region          155. .157
FT                   /note= "putative receptor binding portion"
XX
PN   WO9216553-A1.
XX
PD   01-OCT-1992.
XX
PF   18-MAR-1992;   92WO-US002190.
XX
PR   18-MAR-1991;   91US-00670827.
XX
PA   (UYNY ) UNIV NEW YORK STATE.
PA   (CENZ ) CENTOCOR INC.
XX
PI   Le J,  Vilcek J,  Daddona PE,  Ghrayeb J,  Knight DM,  Siegel SA;
XX
DR   WPI; 1992-349155/42.
XX
PT   Monoclonal and chimeric antibodies to human TNF - useful for treating
PT   sepsis syndrome, cachexia, microbial infections, rheumatoid arthritis,
PT   inflammation, etc.
XX
PS   Claim 22; Page 77; 105pp; English.
XX
CC   Anti-TNF antibodies were prepd. which bound to an epitope of at least 5
CC   amino acids of residues 87-108 or both of residues 59-80 and 87-108 of
CC   human tumour necrosis factor alpha, but do not bind known or putative
CC   receptor binding portions of TNF, such as those shown in the features
CC   table. The antibodies may be prepd. by hybridomas or recombinantly and
CC   may be used for in vivo treatment and diagnosis of human pathologies
CC   associated with TNF e.g. sepsis syndrome, cachexia, circulatory collapse
CC   and shock resulting from acute or chronic bacterial infection, acute and
CC   parasitic or infectious processes, including bacterial, viral and fungal
CC   infections, acute and chronic immune and autoimmune pathologies such as
CC   sarcoidosis and Crohn's disease, vascular inflammatory pathologies such
CC   as disseminated intravascular coagulation, graft vs. host disease,
CC   Kawasaki's disease and malignant tumours. The antibodies may be used in
CC   combination with TNF therapy, e.g. cancer therapy to remove the undesired
CC   side effects. They may also be used to remove TNF from fluids, tissues or
CC   cells, to detect or quantitate TNF and for blocking TNF activity in vivo,
CC   in situ and in vitro. (Updated on 25-MAR-2003 to correct PN field.)
CC   (Updated on 25-MAR-2003 to correct PA field.)
XX
SQ   Sequence 157 AA;

  Query Match             96.4%;  Score 777;  DB 2;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 1.8e-71;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
```

```
              |||| |||||||||||||||||||||||:||||||| ||||||||||||| ||||||||
Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||||||||||||||||||||||||
Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 9
AAR42679
ID   AAR42679 standard; protein; 157 AA.
XX
AC   AAR42679;
XX
DT   25-MAR-2003  (revised)
DT   19-APR-1994  (first entry)
XX
DE   Human Tumour Necrosis Factor alpha.
XX
KW   Plasmid pDS56/RBSII,SphI-TNF-alpha; mutein; inflammation; obesity;
KW   septic shock; treatment; mutagenic PCR; cytokine.
XX
OS   Homo sapiens.
XX
PN   EP563714-A2.
XX
PD   06-OCT-1993.
XX
PF   20-MAR-1993;   93EP-00104591.
XX
PR   02-APR-1992;   92EP-00810249.
XX
PA   (HOFF ) HOFFMANN LA ROCHE & CO AG F.
XX
PI   Lesslauer W,  Loetscher H,  Stueber D;
XX
DR   WPI; 1993-313109/40.
DR   N-PSDB; AAQ49223.
XX
PT   New human Tumour Necrosis Factor mutein(s) - have amino acid change at
PT   position 86, for selective binding affinity to the P55-TNF-Receptor.
XX
PS   Disclosure; Fig 1b; 29pp; English.
XX
CC   The human TNF-alpha expression plasmid pDS56/RBSII,SphI-TNF-alpha was
CC   used as the source of TNF-alpha gene for preparing the various TNF-alpha
CC   muteins of the invention. Mutagenic PCR was used on the wild-type
CC   template to introduce amino acid substitutions at sites affecting binding
CC   specificity. The muteins retain binding activity to the human p55-TNF-
CC   Receptor but do not bind to the human p75-TNF- Receptor. Consequently,
CC   the muteins have lower systemic toxicity and only elicit some of the
CC   activities of wild-type TNF-a. (Updated on 25-MAR-2003 to correct PN
CC   field.)
XX
SQ   Sequence 157 AA;

  Query Match             96.4%;  Score 777;  DB 2;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 1.8e-71;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| |||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| |||||||||||||||||||||:||||||| ||||||||||||| ||||||||
Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||||||||||||||||||||||||
Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 10
AAR38069
ID   AAR38069 standard; protein; 157 AA.
XX
AC   AAR38069;
XX
DT   14-OCT-1993  (first entry)
XX
DE   Human TNF-alpha.
XX
KW   Withdrawal symptom; tumour necrosis factor; narcotic; nicotine; morphine;
KW   thymosin; alcohol.
XX
OS   Homo sapiens.
XX
PN   JP05117161-A.
XX
PD   14-MAY-1993.
XX
PF   23-OCT-1991;   91JP-00337489.
XX
PR   23-OCT-1991;   91JP-00337489.
XX
PA   (SOMA/) SOMA G.
PA   (MIZU/) MIZUNO D.
XX
DR   WPI; 1993-191442/24.
XX
PT   Drugs for treating alcohol, morphine narcotics or nicotine withdrawal
PT   symptoms - contg. tumour necrosis factor-alpha, thymosin tumour necrosis
PT   factor fused cpd. or murine tumour necrosis factor-alpha prepd. from
PT   macrophage of human or animal.
XX
PS   Disclosure; Page 2-3; 5pp; Japanese.
XX
CC   Drugs acting on withdrawal symptoms contain TNF, esp. TNF-alpha (AAR38069
CC   and AAR38077), rTNF-S-AM1 (AAR38070), rTNF-S-AM2 (AAR38071), thymosin-
CC   beta4-TNF fused cpd. (AAR38072-76). The drugs are effective in treatment
CC   of withdrawal symptoms caused by habitual use of alcohol, morphine
CC   narcotics or nicotine in humans or animals (e.g. swine, dog, cat,
CC   chicken). The drugs may be administered as TNF at a dose of 10ng-10mg
CC   orally or 5ng-1mg i.v. or 50ng-50mg percutaneously a day for a human
CC   adult. In animals, the drugs may be administered according to the human
CC   dosage (1/60 per kg body wt.)
XX
SQ   Sequence 157 AA;

  Query Match             96.4%;  Score 777;  DB 2;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 1.8e-71;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| |||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| |||||||||||||||||||||:||||||| ||||||||||||| ||||||||
Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||||||||||||||||||||||||
Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 11
AAR62463
ID   AAR62463 standard; protein; 157 AA.
XX
AC   AAR62463;
XX
DT   25-MAR-2003  (revised)
DT   02-JUN-1995  (first entry)
XX
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```
DE   Tumour necrosis factor-alpha protein.
XX
KW   Human; tumour necrosis factor; TNF; TNF-a; expression; mutein; mutation;
KW   receptor; affinity; therapeutic; diagnostic; cancer therapy; cancer;
KW   obesity; septic shock; meningitis.
XX
OS   Homo sapiens.
XX
PN   EP619372-A1.
XX
PD   12-OCT-1994.
XX
PF   17-MAR-1994;   94EP-00104154.
XX
PR   29-MAR-1993;   93EP-00810224.
XX
PA   (HOFF ) HOFFMANN LA ROCHE & CO AG F.
XX
PI   Banner D,  Lesslauer W,  Loetscher H,  Stueber D;
XX
DR   WPI; 1994-311810/39.
DR   N-PSDB; AAQ73431.
XX
PT   New human TNF-a muteins with higher affinity for p75-TNFR - useful e.g.
PT   for cancer therapy, treatment of obesity and toxic shock.
XX
PS   Disclosure; Page 28-31; 53pp; English.
XX
CC   The amino acid sequence of the human wild type tumour necrosis factor
CC   alpha (TNF-a). The gene encoding the protein is placed in the expression
CC   plasmid pDS56/RBSII and called pDS56/RBSII,SphI-TNFa. The expression of
CC   the wild type or mutein proteins is regulated by the lac repressor
CC   present on the plasmid pREP4. The gene encoding the protein is mutated at
CC   specific sites resulting in series of mutated proteins (AAR62464-83 and
CC   AAR63093-103). The biological activities of TNF are mediated via specific
CC   receptors of mol. wt. 55 and 75 kDa called p55-TNF-R and p75-TNF-R
CC   respectively. The mutated protein presented have a higher affinity for
CC   the human p75-TNF receptor than for the p55-TNF receptor. The mutated
CC   proteins can be used in a variety of therapeutic or diagnostic
CC   applications including cancer therapy, treatment of obesity, septic shock
CC   or bacterial meningitis. (Updated on 25-MAR-2003 to correct PN field.)
XX
SQ   Sequence 157 AA;

  Query Match             96.4%;  Score 777;  DB 2;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 1.8e-71;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| |||||||||||||||||||||:||||||| |||||||||||| ||||||||
Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||||||||||||||||||||||||
Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 12
AAR60243
ID   AAR60243 standard; peptide; 157 AA.
XX
AC   AAR60243;
XX
DT   25-MAR-2003  (revised)
DT   16-MAR-1995  (first entry)
XX
DE   Human TNF-alpha.
XX
KW   TNF-alpha; tumor necrosis factor-alpha; tip peptide; mutein; cancer;
KW   sepsis; inflammation; cytokine; metastasis; lectin; adhesion;
KW   mutagenesis.
XX
OS   Homo sapiens.
XX
FH   Key             Location/Qualifiers
FT   Misc-difference 1. .8
FT                   /note= "in TNF muteins, residues 1-8 are replaced by a
FT                   peptide within the region spanning aa 5-30 of laminin"
FT   Misc-difference 101
FT                   /note= "in TNF muteins, residue 101 is Ser"
FT   Misc-difference 102
FT                   /note= "in TNF muteins, residue 102 is Arg or deleted"
FT   Misc-difference 103
FT                   /note= "in TNF muteins, residue 103 is Trp"
FT   Misc-difference 105
FT                   /note= "in TNF muteins, residue 105 is Pro or Ile or
FT                   residue 105 is Ile and residue 44 is Cys"
FT   Misc-difference 106
FT                   /note= "in TNF muteins, residue 106 is Ser, or residue
FT                   106 is Ser and residue 131 is Cys"
FT   Misc-difference 108
FT                   /note= "In TNF muteins, residue 108 is Phe"
FT   Misc-difference 110
FT                   /note= "In TNF muteins, residue 110 is Lys"
FT   Misc-difference 111. .112
FT                   /note= "In TNF muteins, residues 111-112 are deleted, or
FT                   residue 111 is deleted or Met, or residue 111 is deleted
FT                   and residue 109 is Gln and residue 120 is His"
FT   Misc-difference 115. .116
FT                   /note= "In TNF muteins, residues 115-116 are Ile-Lys"
FT   Misc-difference 115
FT                   /note= "In TNF muteins, residue 115 is Ile or Cys"
FT   Misc-difference 116
FT                   /note= "In TNF muteins, residue 116 is Lys, His or Val"
XX
PN   WO9418325-A1.
XX
PD   18-AUG-1994.
XX
PF   02-FEB-1994;   94WO-EP000286.
XX
PR   03-FEB-1993;   93EP-00400262.
XX
PA   (INNO-) INNOGENETICS NV SA.
XX
PI   Lucas R,  De Baetselier P,  Fransen L,  Sablon E;
XX
DR   WPI; 1994-279746/34.
XX
PT   New tumour necrosis factor -alpha muteins, antibodies and antisense
PT   peptide(s) - used in the treatment of diseases and conditions associated
PT   with the in vivo activities of TNF-A eg cancer, sepsis, inflammation,
PT   etc.
XX
PS   Disclosure; Page 10; 132pp; English.
XX
CC   TNF-alpha muteins were constructed in the tip region (given in AAR60231)
CC   of human TNF-alpha. The mutations resulted in: modulation of lectin-like
CC   activity; reduced toxic activity; modulation of inflammatory activity;
CC   modulated adhesion molecule inducing capacity; reduced metastasis
CC   promoting activity; and/or increased half-life. Muteins of the mouse TNF
CC   (given in AAR60244) may also be produced. (Updated on 25-MAR-2003 to
CC   correct PN field.)
XX
SQ   Sequence 157 AA;

  Query Match             96.4%;  Score 777;  DB 2;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 1.8e-71;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||
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```
Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| |||||||||||||||||||||||:||||||| |||||||||||| ||||||||
Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||||||||||||||||||||||
Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 13
AAR57437
ID   AAR57437 standard; protein; 157 AA.
XX
AC   AAR57437;
XX
DT   25-MAR-2003  (revised)
DT   13-MAR-1995  (first entry)
XX
DE   Human tumour necrosis factor (wild-type).
XX
KW   Tumour necrosis factor; TNF; mutein; variant; antitumour; toxicity;
KW   haemorrhagic necrosis; antiviral; parasite; malaria.
XX
OS   Homo sapiens.
XX
FH   Key             Location/Qualifiers
FT   Misc-difference 1. .7
FT                   /note= "one or more of the first 7 N-terminal amino acids
FT                   may be deleted"
FT   Misc-difference 4
FT                   /note= "Ser pref. replaced by Arg"
FT   Misc-difference 5
FT                   /note= "Ser pref. replaced by Arg"
FT   Misc-difference 6
FT                   /note= "Arg pref. replaced by Ala"
FT   Misc-difference 7
FT                   /note= "Thr pref. replaced by His or Lys"
FT   Misc-difference 8
FT                   /note= "Pro pref. replaced by Arg"
FT   Misc-difference 9
FT                   /note= "Ser pref. replaced by Lys"
FT   Misc-difference 10
FT                   /note= "Asp pref. replaced by Arg"
FT   Misc-difference 38
FT                   /note= "Ala pref. replaced by Asp"
FT   Misc-difference 39
FT                   /note= "Asn pref. replaced by Asp, Lys or Val"
FT   Misc-difference 40
FT                   /note= "Gly pref. replaced by Asp, Lys or Val"
FT   Misc-difference 41
FT                   /note= "Val pref. replaced by Ser"
FT   Misc-difference 52
FT                   /note= "Ser pref. replaced by Ile, Glu or Lys"
FT   Misc-difference 53
FT                   /note= "Glu pref. replaced by Lys or Leu"
FT   Misc-difference 54
FT                   /note= "Gly pref. replaced by Asp or Val"
FT   Misc-difference 56
FT                   /note= "Tyr pref. replaced by Phe or Glu"
FT   Misc-difference 85
FT                   /note= "Val pref. replaced by Glu or Arg"
FT   Misc-difference 86
FT                   /note= "Ser pref. replaced by Leu, Lys, Glu or Asp"
FT   Misc-difference 87
FT                   /note= "Tyr pref. replaced by Glu or Arg"
FT   Misc-difference 88
FT                   /note= "Gln pref. replaced by Glu"
FT   Misc-difference 127
FT                   /note= "Glu pref. replaced by Ala, Val or Lys"
FT   Misc-difference 128
FT                   /note= "Lys pref. replaced by Ala, Val or Glu"
FT   Misc-difference 129
FT                   /note= "Gly pref. replaced by Glu, Lys or Val"
FT   Misc-difference 156
FT                   /note= "Ala pref. replaced by Asp"
FT   Misc-difference 157
FT                   /note= "Leu pref. replaced by Phe"
XX
PN   DE4404124-A1.
XX
PD   11-AUG-1994.
XX
PF   09-FEB-1994;   94DE-04404124.
XX
PR   09-FEB-1993;   93KR-00001751.
XX
PA   (HANI-) HANIL SYNTHETIC FIBER CO LTD.
XX
PI   Shin H,  Shin N,  Lee I,  Kang S;
XX
DR   WPI; 1994-250457/31.
DR   N-PSDB; AAQ67089.
XX
PT   New tumour necrosis factor muteins and related DNA - also vectors and
PT   transformed cells, with increased antitumour activity and lower toxicity
PT   than wild type protein.
XX
PS   Claim 1; Page 20; 23pp; German.
XX
CC   TNF muteins are claimed, in which at least one amino acid at positions 4-
CC   10, 38-41, 52-54, 56, 85-88, 127-129, 156 or 157 is exchanged for a
CC   different amino acid. Opt. one or more of the first 7 N-terminal amino
CC   acids is deleted. TNF causes haemorrhagic necrosis of tumours; has anti-
CC   viral activity and inactivates some species of malarial parasites. The
CC   muteins have increased antitumour activity and lower toxicity than wild-
CC   type protein. (Updated on 25-MAR-2003 to correct PN field.)
XX
SQ   Sequence 157 AA;

  Query Match             96.4%;  Score 777;  DB 2;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 1.8e-71;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| |||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| |||||||||||||||||||||||:||||||| |||||||||||| ||||||||
Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||||||||||||||||||||||
Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 14
AAW28530
ID   AAW28530 standard; protein; 157 AA.
XX
AC   AAW28530;
XX
DT   25-MAR-2003  (revised)
DT   11-JAN-1998  (first entry)
XX
DE   Human TNF.
XX
KW   TNF; tumour necrosis factor; Crohn's disease; cA2 antibody.
XX
OS   Homo sapiens.
XX
FH   Key             Location/Qualifiers
FT   Region          11. .13
FT                   /label= epitope
```

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FT   Region          37. .42
FT                   /label= epitope
FT   Region          49. .57
FT                   /label= epitope
FT   Region          59. .80
FT                   /label= epitope
FT   Region          87. .108
FT                   /label= epitope
FT   Region          155. .157
FT                   /label= epitope
XX
PN   US5656272-A.
XX
PD   12-AUG-1997.
XX
PF   04-FEB-1994;   94US-00192102.
XX
PR   18-MAR-1991;   91US-00670827.
PR   18-MAR-1992;   92US-00853606.
PR   11-SEP-1992;   92US-00943852.
PR   26-JAN-1993;   93US-00010406.
PR   02-FEB-1993;   93US-00013413.
XX
PA   (CENZ ) CENTOCOR INC.
PA   (UYNY-) UNIV NEW YORK MEDICAL CENT.
XX
PI   Dadonna P,  Le J,  Ghrayeb J,  Knight D,  Siegel SA,  Vilcek J;
XX
DR   WPI; 1997-414547/38.
XX
PT   Treatment of Crohn's disease - by administering humanised cA2 antibody
PT   specific for tumour necrosis factor.
XX
PS   Claim 4 and 6; Fig 13; 87pp; English.
XX
CC   An anti-TNF chimeric antibody may be administered for treating TNF-alpha
CC   mediated Crohn's disease in a human. The anti-TNF chimeric antibody
CC   competitively inhibits binding of TNF to monoclonal antibody cA2. The
CC   anti-TNF antibody does not bind to one or more epitopes in amino acids 11
CC   -13, 37-42, 49-57 or 155-157 of hTNF, but does bind to one or more
CC   epitopes included in amino acids between 87-108 or both 87-108 and 59-80
CC   of hTNF. (Updated on 25-MAR-2003 to correct PF field.)
XX
SQ   Sequence 157 AA;

  Query Match             96.4%;  Score 777;  DB 2;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 1.8e-71;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| |||||||||||||||||||||:||||||| |||||||||||||| ||||||||
Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| |||||||||||||||||||||||||||||
Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 15
AAW40819
ID   AAW40819 standard; peptide; 157 AA.
XX
AC   AAW40819;
XX
DT   02-APR-1998  (first entry)
XX
DE   Human tumour necrosis factor.
XX
KW   Tumour necrosis factor; human; hTNF; rheumatoid arthritis; malignancy;
KW   anti-TNF chimeric antibody; inhibitor; therapy; diagnosis; infection;
KW   chronic inflammatory disease; autoimmune disease;
KW   neurodegenerative disease.
XX
OS   Homo sapiens.
XX
FH   Key             Location/Qualifiers
FT   Misc-difference 59. .80
FT                   /note= "epitope recognised by antibody of the invention"
FT   Misc-difference 87. .108
FT                   /note= "epitope recognised by antibody of the invention"
XX
PN   US5698195-A.
XX
PD   16-DEC-1997.
XX
PF   18-OCT-1994;   94US-00324799.
XX
PR   18-MAR-1991;   91US-00670827.
PR   18-MAR-1992;   92US-00853606.
PR   11-SEP-1992;   92US-00943852.
PR   29-JAN-1993;   93US-00010406.
PR   02-FEB-1993;   93US-00013413.
PR   04-FEB-1994;   94US-00192061.
PR   04-FEB-1994;   94US-00192093.
PR   04-FEB-1994;   94US-00192102.
XX
PA   (CENZ ) CENTOCOR INC.
PA   (UYNY-) UNIV NEW YORK MEDICAL CENT.
XX
PI   Siegel S,  Knight D,  Vilcek J,  Ghrayeb J,  Le J,  Daddona P;
XX
DR   WPI; 1998-051431/05.
XX
PT   Treatment of rheumatoid arthritis - with chimeric antibody directed
PT   against tumour necrosis factor.
XX
PS   Claim 3; Col 97-100; 93pp; English.
XX
CC   This sequence represents the human tumour necrosis factor (hTNF).
CC   Epitopes of this sequence are recognised by the antibody used in the
CC   method of the invention. The method of the invention is for treating
CC   rheumatoid arthritis in a human, and comprises administering to the human
CC   an effective TNF-inhibiting amount of an anti-TNF chimeric antibody (Ab),
CC   where the anti-TNF chimeric Ab comprises a non-human variable region or a
CC   TNF antigen binding portion of the variable region, and a human constant
CC   region. The method can be used for in vitro, in situ and/or in vivo
CC   diagnosis and/or treatment of animal cells, tissues or pathologies
CC   associated with the presence of TNF. The Abs used in the method can also
CC   be used for removing TNF from a solution or cells, inhibiting one or more
CC   biological activities of TNF in vitro, in situ or in vitro. Such removal
CC   can include treatment methods of the invention for alleviating symptoms
CC   or pathologies involving TNF, such as bacterial, viral or parasitic
CC   infections, chronic inflammatory diseases, autoimmune diseases,
CC   malignancies and/or neurodegenerative diseases
XX
SQ   Sequence 157 AA;

  Query Match             96.4%;  Score 777;  DB 2;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 1.8e-71;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| |||||||||||||||||||||:||||||| |||||||||||||| ||||||||
Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| |||||||||||||||||||||||||||||
Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
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Search completed: May 5, 2006, 11:26:33
Job time : 74.25 secs

GenCore version 5.1.7

OM protein - protein search, using sw model

Run on: May 5, 2006, 11:21:42 ; Search time 18 Seconds
(without alignments)
839.224 Million cell updates/sec

Title: US-10-668-178-15
Perfect score: 806
Sequence: 1 VRSSSRTPSDAPVAHVVANP.....RPDYLDFAESGQVYFGIIAL 157

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 283416 seqs, 96216763 residues

Total number of hits satisfying chosen parameters: 283416

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : PIR_80:*
1: pir1:*
2: pir2:*
3: pir3:*
4: pir4:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	777	96.4	233	1	QWHUN	tumor necrosis fac
2	770	95.5	233	1	S22052	tumor necrosis fac
3	710	88.1	233	2	S11688	tumor necrosis fac
4	695	86.2	234	1	JQ1344	tumor necrosis fac
5	675.5	83.8	232	1	S12606	tumor necrosis fac
6	637.5	79.1	234	1	A25451	tumor necrosis fac
7	632.5	78.5	235	1	QWMSN	tumor necrosis fac
8	629	78.0	185	2	S52715	tumor necrosis fac
9	629	78.0	233	1	S24642	tumor necrosis fac
10	627	77.8	234	1	JH0529	tumor necrosis fac
11	626.5	77.7	235	2	I54490	tumor necrosis fac
12	622.5	77.2	193	2	S06192	tumor necrosis fac
13	617.5	76.6	235	2	JU0029	tumor necrosis fac
14	257.5	31.9	197	1	JH0309	tumor necrosis fac
15	252	31.3	204	1	S24641	lymphotoxin - bovi
16	246.5	30.6	204	1	S17289	tumor necrosis fac
17	240	29.8	202	1	JN0869	tumor necrosis fac
18	238.5	29.6	202	1	B27303	tumor necrosis fac
19	214.5	26.6	205	1	QWHUX	lymphotoxin alpha
20	166	20.6	244	2	A46066	lymphotoxin beta -
21	165.5	20.5	278	2	A49266	fas ligand - rat
22	159.5	19.8	279	2	A53062	Fas ligand - mouse
23	151	18.7	281	2	I38707	Fas ligand - human
24	142	17.6	306	2	I49139	lymphotoxin-beta -
25	128	15.9	260	2	S21738	CD40 ligand - mous
26	121	15.0	261	2	I53476	CD40 ligand - huma
27	118	14.6	261	2	S53090	CD40 ligand - bovi
28	81.5	10.1	887	2	AD2009	hypothetical prote
29	78.5	9.7	724	2	A53371	glutamate-ammonia
30	78	9.7	834	1	C64779	probable copper-tr
31	78	9.7	834	2	E85546	probable ATPase yb
32	78	9.7	834	2	A90696	Cu(I)-translocatio
33	77	9.6	265	2	B84108	hypothetical prote
34	77	9.6	4077	2	T17484	hypothetical prote
35	76	9.4	286	2	S56436	hypothetical 29.7K
36	76	9.4	466	2	AC3206	two component sens
37	76	9.4	675	2	E75393	hypothetical prote
38	74.5	9.2	213	2	AF2283	hypothetical prote
39	74	9.2	286	2	E91277	probable oxidoredu
40	74	9.2	286	2	E86118	probable oxidoredu
41	73.5	9.1	288	2	A83443	probable transcrip
42	73.5	9.1	563	2	S77533	DNA mismatch repai
43	73.5	9.1	799	2	C82929	ATP synthase alpha
44	73	9.1	230	2	A95354	probable GntR-fami
45	73	9.1	430	2	AG2256	dihydrolipoamide S

ALIGNMENTS

RESULT 1
QWHUN
tumor necrosis factor alpha precursor [validated] - human
N;Alternate names: cachectin; TNFA
C;Species: Homo sapiens (man)
C;Date: 28-Aug-1985 #sequence_revision 28-Aug-1985 #text_change 09-Jul-2004
C;Accession: A93585; S36153; A93351; A44189; B61478; I53311; S62610; I54522; A01646; B2
R;Nedwin, G.E.; Naylor, S.L.; Sakaguchi, A.Y.; Smith, D.; Jarrett-Nedwin, J.; Pennica,
Nucleic Acids Res. 13, 6361-6373, 1985
A;Title: Human lymphotoxin and tumor necrosis factor genes: structure, homology and chr
A;Reference number: A93585; MUID:86016093; PMID:2995927
A;Accession: A93585
A;Molecule type: DNA
A;Residues: 1-233 <NED>
A;Cross-references: UNIPROT:P01375; UNIPARC:UPI000000D745; GB:X02910; GB:X02159; NID:g3
R;Iris, F.J.M.; Bougueleret, L.; Prieur, S.; Caterina, D.; Primas, G.; Perrot, V.; Jurk
Nature Genet. 3, 137-145, 1993
A;Title: Dense Alu clustering and a potential new member of the NFkappaB family within
A;Reference number: S36152; MUID:93272029; PMID:8499947
A;Accession: S36153
A;Status: nucleic acid sequence not shown; translation not shown
A;Molecule type: DNA
A;Residues: 1-233 <IRI>
A;Cross-references: UNIPARC:UPI000000D745; EMBL:Z15026; NID:g37211; PIDN:CAA78745.1; PI
A;Note: the nucleotide sequence was submitted to the EMBL Data Library, August 1992
R;Pennica, D.; Nedwin, G.E.; Hayflick, J.S.; Seeburg, P.H.; Derynck, R.; Palladino, M.A
Nature 312, 724-729, 1984
A;Title: Human tumour necrosis factor: precursor structure, expression and homology to
A;Reference number: A93351; MUID:85086244; PMID:6392892
A;Accession: A93351
A;Molecule type: mRNA
A;Residues: 1-233 <PEN>
A;Cross-references: UNIPARC:UPI000000D745; GB:X02910; GB:X02159; NID:g37209; PIDN:CAA26
A;Note: this protein was isolated from the monocyte-like cell line HL-60 from a promyel
R;Wang, A.M.; Creasey, A.A.; Ladner, M.B.; Lin, L.S.; Strickler, J.; Van Arsdell, J.N.;
Science 228, 149-154, 1985
A;Title: Molecular cloning of the complementary DNA for human tumor necrosis factor.
A;Reference number: A44189; MUID:85142190; PMID:3856324
A;Accession: A44189
A;Molecule type: mRNA
A;Residues: 1-62,'S',64-233 <WAN>
A;Cross-references: UNIPARC:UPI000002FB8A; GB:M10988; NID:g339737; PIDN:AAA61198.1; PID
R;Fukuda, S.; Ando, S.; Sanou, O.; Taniai, M.; Fujii, M.; Masaki, N.; Nakamura, K.I.;
Lymphokine Res. 7, 175-185, 1988
A;Title: Simultaneous production of natural human tumor necrosis factor-alpha, -beta ar
A;Reference number: A61478; MUID:88301617; PMID:2841543
A;Accession: B61478
A;Molecule type: protein
A;Residues: 83-102;109-119;121-128,'X',130-131;142-144,'X',146,'XXX',150-152;159-174;16
A;Cross-references: UNIPARC:UPI00001735C7; UNIPARC:UPI00001735C8; UNIPARC:UPI00001735C9
R;Marmenout, A.; Fransen, L.; Tavernier, J.; Van Der Heyden, J.; Tizard, R.; Kawashima,
Eur. J. Biochem. 152, 515-522, 1985

A;Title: Molecular cloning and expression of human tumor necrosis factor and comparison
A;Reference number: I53311; MUID:86030296; PMID:3932069
A;Accession: I53311
A;Status: translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-233 <MAR>
A;Cross-references: UNIPARC:UPI000000D745; GB:M26331; NID:g339763; PIDN:AAA36758.1; PID:
A;Experimental source: U-937 cells
R;Takakura-Yamamoto, R.; Yamamoto, S.; Fukuda, S.; Kurimoto, M.
Eur. J. Biochem. 235, 431-437, 1996
A;Title: O-Glycosylated species of natural human tumor-necrosis factor-alpha.
A;Reference number: S62610; MUID:96202967; PMID:8631363
A;Accession: S62610
A;Molecule type: protein
A;Residues: 77-99 <TAK>
A;Cross-references: UNIPARC:UPI00001735CD
R;D'Alfonso, S.; Richiardi, P.M.
Immunogenetics 39, 150-154, 1994
A;Title: A polymorphic variation in a putative regulation box of the TNFA promoter regic
A;Reference number: I54522; MUID:94102809; PMID:7903959
A;Accession: I54522
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-8 <DAL>
A;Cross-references: UNIPARC:UPI00001735CE; GB:S68530; NID:g544751
R;Stevenson, F.T.; Bursten, S.L.; Locksley, R.M.; Lovett, D.H.
J. Exp. Med. 176, 1053-1062, 1992
A;Title: Myristyl acylation of the tumor necrosis factor alpha precursor on specific lys
A;Reference number: A59163; MUID:93018820; PMID:1402651
A;Contents: annotation; identification of myristylated lysines
R;Aggarwal, B.B.; Kohr, W.J.; Hass, P.E.; Moffat, B.; Spencer, S.A.; Henzel, W.J.; Bring
J. Biol. Chem. 260, 2345-2354, 1985
A;Title: Human tumor necrosis factor. Production, purification, and characterization.
A;Reference number: A92511; MUID:85130974; PMID:3871770
A;Contents: annotation; disulfide bond
C;Comment: Secreted from mitogen-activated macrophages within 4-24 hours after induction
out detriment to normal cells. It can also act synergistically with interferon gamma to
C;Comment: TNF-alpha and -beta (lymphotoxin) are the products of different genes closely
ut are produced by different cell types and have different induction kinetics.
C;Genetics:
A;Gene: GDB:TNF; TNFA
A;Cross-references: GDB:120441; OMIM:191160
A;Map position: 6p21.3-6p21.3
A;Introns: 62/3; 78/1; 94/1
C;Complex: homotrimer
C;Superfamily: tumor necrosis factor
C;Keywords: cytokine; cytotoxin; glycoprotein; homotrimer; lipoprotein; lymphokine; macr
F;1-76/Domain: propeptide #status predicted <PRO>
F;77-233/Product: tumor necrosis factor #status experimental <MAT>
F;19,20/Binding site: myristate (Lys) (covalent) #status experimental
F;81/Binding site: carbohydrate (Ser) (covalent) (partial) #status experimental
F;145-177/Disulfide bonds: #status experimental

Query Match 96.4%; Score 777; DB 1; Length 233;
Best Local Similarity 96.2%; Pred. No. 1.1e-71;
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

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Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||
Db         77 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 136

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| ||||||||||||||||||||||:||||||| |||||||||||| ||||||||
Db        137 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 196

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| |||||||||||||||||||||||||||||
Db        197 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 233
```

RESULT 2
S22052
tumor necrosis factor alpha precursor - baboon
C;Species: Papio sp. (baboon)
C;Date: 10-Sep-1999 #sequence_revision 10-Sep-1999 #text_change 09-Jul-2004
C;Accession: S22052
R;Sanjanwala, M.; Edwards, A.
submitted to the EMBL Data Library, September 1991
A;Description: Baboon Tumor Necrosis Factor Derived from Sequences of Genomic DNA.
A;Reference number: S22052
A;Accession: S22052
A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-233 <SAN>
A;Cross-references: UNIPROT:P33620; UNIPARC:UPI00001370C4; EMBL:X62141; NID:g38159; PIDN
C;Genetics:
A;Introns: 62/3; 78/1; 94/1
C;Superfamily: tumor necrosis factor
C;Keywords: glycoprotein; lipoprotein; myristylation; transmembrane protein
F;19,20/Binding site: myristate (Lys) (covalent) #status predicted
F;81/Binding site: carbohydrate (Ser) (covalent) #status predicted
F;145-177/Disulfide bonds: #status predicted

Query Match 95.5%; Score 770; DB 1; Length 233;
Best Local Similarity 95.5%; Pred. No. 5.6e-71;
Matches 150; Conservative 1; Mismatches 6; Indels 0; Gaps 0;

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Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||
Db         77 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 136

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| ||||||||||||||||||||||:||||||| |||||||||||| ||||||||
Db        137 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 196

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| |||||||||||||||||||||||||||||
Db        197 GGVFQLEKGDRLSAEINLPDYLDFAESGQVYFGIIAL 233
```

RESULT 3
S11688
tumor necrosis factor alpha precursor - cat
C;Species: Felis silvestris catus (domestic cat)
C;Date: 21-Nov-1993 #sequence_revision 10-Nov-1995 #text_change 09-Jul-2004
C;Accession: S11688
R;McGraw, R.A.; Coffee, B.W.; Otto, C.M.; Drews, R.T.; Rawlings, C.A.
Nucleic Acids Res. 18, 5563, 1990
A;Title: Gene sequence of feline tumor necrosis factor alpha.
A;Reference number: S11688; MUID:91016860; PMID:2216740
A;Accession: S11688
A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-233 <MCG>
A;Cross-references: UNIPROT:P19101; UNIPARC:UPI00001370BE; EMBL:X54000; NID:g1084; PIDN
C;Genetics:
A;Introns: 62/3; 78/1; 94/1
C;Superfamily: tumor necrosis factor
C;Keywords: glycoprotein; lipoprotein; myristylation; transmembrane protein
F;19,20/Binding site: myristate (Lys) (covalent) #status predicted
F;81/Binding site: carbohydrate (Ser) (covalent) #status predicted
F;145-177/Disulfide bonds: #status predicted

Query Match 88.1%; Score 710; DB 2; Length 233;
Best Local Similarity 88.5%; Pred. No. 7.4e-65;
Matches 139; Conservative 6; Mismatches 12; Indels 0; Gaps 0;

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Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              :|||||||||| |||||||||:|||||| |:||||||||||||| |||| |||:|||||||
Db         77 LRSSSRTPSDKPVAHVVANPEAEGQLQRLSRRANALLANGVELTDNQLKVPSDGLYLIYS 136

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              ||||:||||||||||||| ||| |||||||:||||||| |||||||||||| ||||||||
Db        137 QVLFTGQGCPSTHVLLTHAISRFAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 196

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
```

```
                ||||||| ||||| ||| | ||||||||||||||||||
Db        197 GGVFQLEKGDRLSTEINLPAYLDFAESGQVYFGIIAL 233


RESULT 4
JQ1344
tumor necrosis factor alpha precursor - horse
N;Alternate names: cachectin; TNF alpha
C;Species: Equus caballus (domestic horse)
C;Date: 10-Sep-1999 #sequence_revision 10-Sep-1999 #text_change 09-Jul-2004
C;Accession: JQ1344
R;Su, X.; Morris, D.D.; McGraw, R.A.
Gene 107, 319-321, 1991
A;Title: Cloning and characterization of gene TNF alpha encoding equine tumor necrosis f
A;Reference number: JQ1344; MUID:92084125; PMID:1748301
A;Accession: JQ1344
A;Molecule type: DNA
A;Residues: 1-234 <SUX>
A;Cross-references: UNIPROT:P29553; UNIPARC:UPI00001370BF; GB:M64087; NID:g164244; PIDN:
C;Comment: This protein is an important proximal mediator of endotoxemia.
C;Genetics:
A;Gene: TNF-alpha
A;Introns: 62/3; 79/1; 95/1
C;Superfamily: tumor necrosis factor
C;Keywords: cytokine; cytotoxin; glycoprotein; lipoprotein; lymphokine; macrophage; memb
F;78-234/Product: tumor necrosis factor alpha #status predicted <TUM>
F;19,20/Binding site: myristate (Lys) (covalent) #status predicted
F;82/Binding site: carbohydrate (Ser) (covalent) #status predicted
F;146-178/Disulfide bonds: #status predicted

  Query Match             86.2%;  Score 695;  DB 1;  Length 234;
  Best Local Similarity   85.4%;  Pred. No. 2.5e-63;
  Matches  134;  Conservative   11;  Mismatches   12;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              :|||||||||| ||||||||||||||||||: ||||||||||:| ||||||| :|||||||
Db         78 LRSSSRTPSDKPVAHVVANPQAEGQLQWLSGRANALLANGVKLTDNQLVVPLDGLYLIYS 137

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| ||||||||||||||||:|||| ::||||||| |||  |:|| ||| ||||||||
Db        138 QVLFKGQGCPSTHVLLTHTISRLAVSYPSKVNLLSAIKSPCHTESPEQAEAKPWYEPIYL 197

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||:|||||||:|:||||||||||||||||
Db        198 GGVFQLEKGDQLSAEINQPNYLDFAESGQVYFGIIAL 234


RESULT 5
S12606
tumor necrosis factor alpha precursor - pig
C;Species: Sus scrofa domestica (domestic pig)
C;Date: 10-Sep-1999 #sequence_revision 10-Sep-1999 #text_change 09-Jul-2004
C;Accession: S12606; S17290; S18965; I46659
R;Drews, R.T.; Coffee, B.W.; Prestwood, A.K.; McGraw, R.A.
Nucleic Acids Res. 18, 5564, 1990
A;Title: Gene sequence of porcine tumor necrosis factor alpha.
A;Reference number: S12606; MUID:91016861; PMID:2216741
A;Accession: S12606
A;Molecule type: DNA
A;Residues: 1-232 <DRE>
A;Cross-references: UNIPROT:P23563; UNIPARC:UPI00001370C6; EMBL:X54001; NID:g2135; PIDN:
R;Kuhnert, P.; Wuethrich, C.; Peterhans, E.; Pauli, U.
Gene 102, 171-178, 1991
A;Title: The porcine tumor necrosis factor-encoding genes: sequence and comparative anal
A;Reference number: S17289; MUID:91340150; PMID:1874444
A;Accession: S17290
A;Molecule type: DNA
A;Residues: 1-232 <KUH>
A;Cross-references: UNIPARC:UPI00001370C6; EMBL:X54859; NID:g2132; PIDN:CAA38639.1; PID:
A;Note: the authors translated the codon GAG for residue 202 as Gly
R;Choi, C.S.; Molitor, T.W.; Lin, G.F.; Murtaugh, M.P.
submitted to the EMBL Data Library, January 1991
A;Description: Complete nucleotide sequence of a cDNA encoding porcine tumor necrosis fa
A;Reference number: S18965
A;Accession: S18965
A;Molecule type: mRNA
A;Residues: 1-232 <CHO>
A;Cross-references: UNIPARC:UPI00001370C6; EMBL:X57321; NID:g2137; PIDN:CAA40591.1; PID
R;Pauli, U.; Beutler, B.; Peterhans, E.
Gene 81, 185-191, 1989
A;Title: Porcine tumor necrosis factor alpha: Cloning with the polymerase chain reactio
A;Reference number: I46659; MUID:90034181; PMID:2478420
A;Accession: I46659
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: mRNA
A;Residues: 44-232 <PAU>
A;Cross-references: UNIPARC:UPI000016C6F7; GB:M29079; NID:g164694; PIDN:AAA31128.1; PID
C;Genetics:
A;Introns: 62/3; 78/1; 93/1
C;Superfamily: tumor necrosis factor
C;Keywords: cytokine; cytotoxin; glycoprotein; lipoprotein; lymphokine; macrophage; myr
F;1-77/Domain: propeptide #status predicted <PRO>
F;78-232/Product: tumor necrosis factor alpha #status predicted <MAT>
F;19,20/Binding site: myristate (Lys) (covalent) #status predicted
F;81/Binding site: carbohydrate (Ser) (covalent) #status predicted
F;144-176/Disulfide bonds: #status predicted

  Query Match             83.8%;  Score 675.5;  DB 1;  Length 232;
  Best Local Similarity   85.4%;  Pred. No. 2.4e-61;
  Matches  134;  Conservative   10;  Mismatches   12;  Indels    1;  Gaps    1;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              :||||:| || |||||||| :|||||||  :  ||||||||||:|:|||||||::|||||||
Db         77 LRSSSQT-SDKPVAHVVANVKAEGQLQWQSGYANALLANGVKLKDNQLVVPTDGLYLIYS 135

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| |||||||:| |||||||||||||:||||||| |||||||||||| ||||||||
Db        136 QVLFRGQGCPSTNVFLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 195

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              |||||||  |||||||| ||||||||||||||||||
Db        196 GGVFQLEKDDRLSAEINLPDYLDFAESGQVYFGIIAL 232


RESULT 6
A25451
tumor necrosis factor alpha precursor - rabbit
N;Alternate names: cachectin; TNF alpha
C;Species: Oryctolagus cuniculus (domestic rabbit)
C;Date: 10-Sep-1999 #sequence_revision 10-Sep-1999 #text_change 09-Jul-2004
C;Accession: A25454; A25451; JS0727
R;Ito, H.; Yamamoto, S.; Kuroda, S.; Sakamoto, H.; Kajihara, J.; Kiyota, T.; Hayashi, H
DNA 5, 149-156, 1986
A;Title: Molecular cloning and expression in Escherichia coli of the cDNA coding for ra
A;Reference number: A25454; MUID:86219711; PMID:3519137
A;Accession: A25454
A;Molecule type: mRNA
A;Residues: 1-234 <ITO>
A;Cross-references: UNIPROT:P04924; UNIPARC:UPI000016C5C2; GB:M12845; NID:g165759; PIDN
R;Ito, H.; Shirai, T.; Yamamoto, S.; Akira, M.; Kawahara, S.; Todd, C.W.; Wallace, R.B.
DNA 5, 157-165, 1986
A;Title: Molecular cloning of the gene encoding rabbit tumor necrosis factor.
A;Reference number: A25451; MUID:86219712; PMID:3519138
A;Accession: A25451
A;Molecule type: DNA
A;Residues: 1-234 <IT2>
A;Cross-references: UNIPARC:UPI000016C5C2
A;Note: this sequence differs from that shown in having a Gln inserted between residues
R;Shakhov, A.N.; Kuprash, D.V.; Azizov, M.M.; Jongeneel, C.V.; Nedospasov, S.A.
Gene 95, 215-221, 1990
A;Title: Structural analysis of the rabbit TNF locus, containing the genes encoding TNF
A;Reference number: JH0309; MUID:91065534; PMID:2249779
A;Accession: JS0727
A;Status: nucleic acid sequence not shown; translation not shown
A;Molecule type: DNA
A;Residues: 1-62,'Q',63-234 <SHA>
```

```
A;Cross-references: UNIPARC:UPI00001370C7; GB:M60340; GB:M35326; NID:g165754; PIDN:AAA31
C;Genetics:
A;Introns: 62/3; 80/1; 96/1
C;Superfamily: tumor necrosis factor
C;Keywords: cytokine; cytotoxin; glycoprotein; lipoprotein; lymphokine; macrophage; memb
F;1-81/Domain: propeptide #status predicted <PRO>
F;82-234/Product: tumor necrosis factor #status predicted <MAT>
F;19,20/Binding site: myristate (Lys) (covalent) #status predicted
F;83/Binding site: carbohydrate (Ser) (covalent) #status predicted
F;147-178/Disulfide bonds: #status predicted

  Query Match             79.1%;  Score 637.5;  DB 1;  Length 234;
  Best Local Similarity   78.3%;  Pred. No. 1.9e-57;
  Matches  123;  Conservative   16;  Mismatches   17;  Indels    1;  Gaps    1;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              :||:||  || |:|||||||| |||||||::|||||||||::| |||||||::|||||||
Db         79 LRSASRALSDKPLAHVVANPQVEGQLQWLSQRANALLANGMKLTDNQLVVPADGLYLIYS 138

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              ||||||||| | :||||||:|| ||||  :||||||| ||| ||||| || : |||||||
Db        139 QVLFSGQGCRS-YVLLTHTVSRFAVSYPNKVNLLSAIKSPCHRETPEEAEPMAWYEPIYL 197

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||| |:|:|:||| ||||||||||||
Db        198 GGVFQLEKGDRLSTEVNQPEYLDLAESGQVYFGIIAL 234


RESULT 7
QWMSN
tumor necrosis factor alpha precursor - mouse
N;Alternate names: cachectin; TNF alpha
C;Species: Mus musculus (house mouse)
C;Date: 31-Mar-1988 #sequence_revision 31-Mar-1988 #text_change 09-Jul-2004
C;Accession: A22908; S03791; A27303; A25164; A23127; A34251; I59058; A36696
R;Shirai, T.; Shimizu, N.; Shiojiri, S.; Horiguchi, S.; Ito, H.
DNA 7, 193-201, 1988
A;Title: Cloning and expression in Escherichia coli of the gene for mouse tumor necrosis
A;Reference number: A22908; MUID:88224564; PMID:2836146
A;Accession: A22908
A;Molecule type: DNA
A;Residues: 1-235 <SHI>
A;Cross-references: UNIPROT:P06804; UNIPARC:UPI0000022334; GB:M20155
R;Shakhov, A.N.; Nedospasov, S.A.
Bioorg. Khim. 13, 701-705, 1987
A;Title: Molecular cloning of the genes coding for tumor necrosis factors: complete nucl
A;Reference number: S03791; MUID:87298639; PMID:3040015
A;Accession: S03791
A;Molecule type: DNA
A;Residues: 1-235 <SHA>
A;Cross-references: UNIPARC:UPI0000022334; GB:M38296; NID:g202086; PIDN:AAA40459.1; PID:
A;Note: article in Russian with English abstract
R;Semon, D.; Kawashima, E.; Jongeneel, C.V.; Shakhov, A.N.; Nedospasov, S.A.
Nucleic Acids Res. 15, 9083-9084, 1987
A;Title: Nucleotide sequence of the murine TNF locus, including the TNF-alpha-(tumor nec
A;Reference number: A93679; MUID:88067722; PMID:3684584
A;Accession: A27303
A;Molecule type: DNA
A;Residues: 1-235 <SEM>
A;Cross-references: UNIPARC:UPI0000022334; GB:Y00467; NID:g54830; PIDN:CAA68530.1; PID:g
R;Pennica, D.; Hayflick, J.S.; Bringman, T.S.; Palladino, M.A.; Goeddel, D.V.
Proc. Natl. Acad. Sci. U.S.A. 82, 6060-6064, 1985
A;Title: Cloning and expression in Escherichia coli of the cDNA for murine tumor necrosi
A;Reference number: A25164; MUID:85298296; PMID:3898078
A;Accession: A25164
A;Molecule type: mRNA
A;Residues: 1-235 <PEN>
A;Cross-references: UNIPARC:UPI0000022334; GB:M11731; NID:g202084; PIDN:AAA40458.1; PID:
R;Fransen, L.; Muller, R.; Marmenout, A.; Tavernier, J.; van der Heyden, J.; Kawashima,
Nucleic Acids Res. 13, 4417-4429, 1985
A;Title: Molecular cloning of mouse tumour necrosis factor cDNA and its eukaryotic expre
A;Reference number: A23127; MUID:85242112; PMID:2989794
A;Accession: A23127
A;Molecule type: mRNA
A;Residues: 1-235 <FRA>
A;Cross-references: UNIPARC:UPI0000022334; GB:X02611; NID:g54844; PIDN:CAA26457.1; PID:g
R;Cseh, K.; Beutler, B.
J. Biol. Chem. 264, 16256-16260, 1989
A;Title: Alternative cleavage of the cachectin/tumor necrosis factor propeptide results
A;Reference number: A34251; MUID:89380231; PMID:2777790
A;Accession: A34251
A;Molecule type: protein
A;Residues: 70-87 <CSE>
A;Cross-references: UNIPARC:UPI00001735CF
R;Caput, D.; Beutler, B.; Hartog, K.; Thayer, R.; Brown-Shimer, S.L.; Cerami, A.
Proc. Natl. Acad. Sci. U.S.A. 83, 1670-1674, 1986
A;Title: Identification of a common nucleotide sequence in the 3'-untranslated region of
A;Reference number: I59058; MUID:86149365; PMID:2419912
A;Accession: I59058
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: mRNA
A;Residues: 1-230,'R',232-235 <RES>
A;Cross-references: UNIPARC:UPI000016D086; GB:M13049; NID:g202082; PIDN:AAA40457.1; PID:
R;Sherry, B.; Jue, D.M.; Zentella, A.; Cerami, A.
Biochem. Biophys. Res. Commun. 173, 1072-1078, 1990
A;Title: Characterization of high molecular weight glycosylated forms of murine tumor ne
A;Reference number: A36696; MUID:91097531; PMID:2268312
A;Accession: A36696
A;Molecule type: protein
A;Residues: 80-85,'X',87-99 <SHE>
A;Cross-references: UNIPARC:UPI00001735D0
C;Genetics:
A;Introns: 62/3; 81/1; 97/1
A;Note: the first intron occurs in the 5'-untranslated region
C;Superfamily: tumor necrosis factor
C;Keywords: cytokine; cytotoxin; glycoprotein; lipoprotein; lymphokine; macrophage; memb
F;80-235/Product: tumor necrosis factor #status experimental <MAT>
F;20/Binding site: myristate (Lys) (covalent) #status predicted
F;84/Binding site: carbohydrate (Ser) (covalent) #status predicted
F;86/Binding site: carbohydrate (Asn) (covalent) #status predicted
F;148-179/Disulfide bonds: #status predicted

  Query Match             78.5%;  Score 632.5;  DB 1;  Length 235;
  Best Local Similarity   75.2%;  Pred. No. 6.1e-57;
  Matches  118;  Conservative   21;  Mismatches   17;  Indels    1;  Gaps    1;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              :||||:  || |||||||| | | ||:||::|||||||||::|:|||||||::||||:||
Db         80 LRSSSQNSSDKPVAHVVANHQVEEQLEWLSQRANALLANGMDLKDNQLVVPADGLYLVYS 139

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| |||||  :||||||:|| |:||| :||||||: ||| ::|||||| ||||||||
Db        140 QVLFKGQGCPD-YVLLTHTVSRFAISYQEKVNLLSAVKSPCPKDTPEGAELKPWYEPIYL 198

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||:||||:| | |||||||||||||:|||
Db        199 GGVFQLEKGDQLSAEVNLPKYLDFAESGQVYFGVIAL 235


RESULT 8
S52715
tumor necrosis factor alpha precursor - bovine (fragment)
C;Species: Bos primigenius taurus (cattle)
C;Date: 19-May-1995 #sequence_revision 21-Jul-1995 #text_change 04-Feb-2000
C;Accession: S52715
R;Mertens, B.; Gaidulis, L.
submitted to the EMBL Data Library, March 1995
A;Description: Cloning and sequence analysis of cDNAs encoding bovine CD40 ligand and bo
A;Reference number: S52715
A;Accession: S52715
A;Status: preliminary
A;Molecule type: mRNA
A;Residues: 1-185 <MER>
A;Cross-references: UNIPARC:UPI000016C282; EMBL:Z48808; NID:g755701; PIDN:CAA88743.1; PI
C;Superfamily: tumor necrosis factor
C;Keywords: glycoprotein
```

```
F;33/Binding site: carbohydrate (Ser) (covalent) #status predicted
F;97-129/Disulfide bonds: #status predicted

  Query Match             78.0%;  Score 629;  DB 2;  Length 185;
  Best Local Similarity   77.7%;  Pred. No. 1e-56;
  Matches  122;  Conservative   15;  Mismatches   20;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              :||||:  |: |||||||:  : |||:| :  ||||:||||:| ||||||||::|||||||
Db         29 LRSSSQASSNKPVAHVVADINSPGQLRWWDSYANALMANGVKLEDNQLVVPADGLYLIYS 88

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| ||||||| : |||||||||||||:||:|||| ||| ||||| ||| |||||||
Db         89 QVLFRGQGCPSTPLFLTHTISRIAVSYQTKVNILSAIKSPCHRETPEWAEAKPWYEPIYQ 148

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||| |||||:||||||||||||
Db        149 GGVFQLEKGDRLSAEINLPDYLDYAESGQVYFGIIAL 185


RESULT 9
S24642
tumor necrosis factor alpha precursor - bovine
C;Species: Bos primigenius taurus (cattle)
C;Date: 10-Sep-1999 #sequence_revision 10-Sep-1999 #text_change 09-Jul-2004
C;Accession: I46047; S24642
R;Cludts, I.; Cleuter, Y.; Kettmann, R.; Burny, A.; Droogmans, L.
Cytokine 5, 336-341, 1993
A;Title: Cloning and characterization of the tandemly arranged bovine lymphotoxin and tu
A;Reference number: I46046; MUID:94083525; PMID:8260599
A;Accession: I46047
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-233 <CL2>
A;Cross-references: UNIPROT:Q06599; UNIPARC:UPI00001370B8; EMBL:Z14137; NID:g796; PIDN:C
C;Genetics:
A;Gene: TNFA
A;Introns: 62/3; 78/1; 94/1
C;Superfamily: tumor necrosis factor
C;Keywords: glycoprotein; lipoprotein; myristylation; transmembrane protein
F;20/Binding site: myristate (Lys) (covalent) #status predicted
F;81/Binding site: carbohydrate (Ser) (covalent) #status predicted
F;145-177/Disulfide bonds: #status predicted

  Query Match             78.0%;  Score 629;  DB 1;  Length 233;
  Best Local Similarity   77.7%;  Pred. No. 1.4e-56;
  Matches  122;  Conservative   15;  Mismatches   20;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              :||||:  |: |||||||:  : |||:| :  ||||:||||:| ||||||||::|||||||
Db         77 LRSSSQASSNKPVAHVVADINSPGQLRWWDSYANALMANGVKLEDNQLVVPADGLYLIYS 136

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| ||||||| : |||||||||||||:||:|||| ||| ||||| ||| |||||||
Db        137 QVLFRGQGCPSTPLFLTHTISRIAVSYQTKVNILSAIKSPCHRETPEWAEAKPWYEPIYQ 196

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||| |||||:||||||||||||
Db        197 GGVFQLEKGDRLSAEINLPDYLDYAESGQVYFGIIAL 233


RESULT 10
JH0529
tumor necrosis factor alpha precursor - sheep
N;Alternate names: cachectin; TNF alpha
C;Species: Ovis orientalis aries, Ovis ammon aries (domestic sheep)
C;Date: 10-Sep-1999 #sequence_revision 10-Sep-1999 #text_change 09-Jul-2004
C;Accession: JH0529; S48118; S13114; S20661
R;Green, I.R.; Sargan, D.R.
Gene 109, 203-210, 1991
A;Title: Sequence of the cDNA encoding ovine tumor necrosis factor-alpha: problems with
A;Reference number: JH0529; MUID:92112044; PMID:1765267
A;Accession: JH0529
A;Molecule type: mRNA
A;Residues: 1-234 <GRE>
A;Cross-references: UNIPROT:P23383; UNIPARC:UPI000002CD39; EMBL:X55152; NID:g1405; PIDN:
A;Experimental source: alveolar macrophage
R;Nash, A.D.; Barcham, G.J.; Brandon, M.R.; Andrews, A.E.
Immunol. Cell Biol. 69, 273-283, 1991
A;Title: Molecular cloning, expression and characterization of ovine TNF-alpha.
A;Reference number: S48118; MUID:92155784; PMID:1786996
A;Accession: S48118
A;Status: preliminary
A;Molecule type: mRNA
A;Residues: 1-234 <NAS>
A;Cross-references: UNIPARC:UPI000002CD39; EMBL:X56756; NID:g297806; PIDN:CAA40076.1; PI
R;Young, A.J.; Hay, J.B.; Chan, J.Y.C.
Nucleic Acids Res. 18, 6723, 1990
A;Title: Primary structure of ovine tumor necrosis factor alpha cDNA.
A;Reference number: S13114; MUID:91067496; PMID:2251151
A;Accession: S13114
A;Status: preliminary
A;Molecule type: mRNA
A;Residues: 1-62,64-234 <YOU>
A;Cross-references: UNIPARC:UPI000016C4EC; EMBL:X55966; NID:g1403; PIDN:CAA39437.1; PID
A;Note: comparison with the introns of homologous sequences suggest that this is probabl
C;Superfamily: tumor necrosis factor
C;Keywords: alternative splicing; cytokine; cytotoxin; glycoprotein; lipoprotein; lymph
F;1-77/Domain: propeptide #status predicted <PRO>
F;78-234/Product: tumor necrosis factor alpha #status predicted <TUM>
F;20/Binding site: myristate (Lys) (covalent) #status predicted
F;82/Binding site: carbohydrate (Ser) (covalent) #status predicted
F;96/Binding site: carbohydrate (Asn) (covalent) #status predicted
F;146-178/Disulfide bonds: #status predicted

  Query Match             77.8%;  Score 627;  DB 1;  Length 234;
  Best Local Similarity   77.7%;  Pred. No. 2.2e-56;
  Matches  122;  Conservative   15;  Mismatches   20;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              :||||:  :: ||||||||  | |||:| :  ||||:||||||:||||||::|||||||
Db         78 LRSSSQASNNKPVAHVVANISAPGQLRWGDSYANALMANGVELKDNQLVVPTDGLYLIYS 137

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| | ||||| : |||||||||||||:||:|||| ||| ||| ||||| |||||||
Db        138 QVLFRGHGCPSTPLFLTHTISRIAVSYQTKVNILSAIKSPCHRETLEGAEAKPWYEPIYQ 197

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||| |:|||:||||||||||||
Db        198 GGVFQLEKGDRLSAEINLPEYLDYAESGQVYFGIIAL 234


RESULT 11
I54490
tumor necrosis factor alpha precursor - white-footed mouse
C;Species: Peromyscus leucopus (white-footed mouse)
C;Date: 02-Aug-1996 #sequence_revision 02-Aug-1996 #text_change 09-Jul-2004
C;Accession: I54490
R;Crew, M.D.; Filipowsky, M.E.
Immunogenetics 35, 351-353, 1992
A;Title: Sequence of the tumor necrosis factor/cachectin (TNF) gene from Peromyscus leu
A;Reference number: I54490; MUID:92218012; PMID:1348497
A;Accession: I54490
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-235 <RES>
A;Cross-references: UNIPROT:P36939; UNIPARC:UPI00001370C5; GB:M59233; NID:g202506; PIDN
C;Genetics:
A;Gene: PlTNF
A;Introns: 62/3; 81/1; 97/1
C;Superfamily: tumor necrosis factor
C;Keywords: glycoprotein; lipoprotein; myristylation
F;19,20/Binding site: myristate (Lys) (covalent) #status predicted
F;84/Binding site: carbohydrate (Ser) (covalent) #status predicted

  Query Match             77.7%;  Score 626.5;  DB 2;  Length 235;
```

```
  Best Local Similarity   75.2%;  Pred. No. 2.5e-56;
  Matches  118;  Conservative   21;  Mismatches   17;  Indels    1;  Gaps    1;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              :||||:  || |||||||| | : ||:||:| ||||||||::|:|||||:|::||||:||
Db         80 LRSSSQNSSDKPVAHVVANHQVDEQLEWLSRGANALLANGMDLKDNQLVIPADGLYLVYS 139

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| |||| |::|||||:|| ||||: :||||||| ||| :|||||:|  ||||||||
Db        140 QVLFKGQGC-SSYVLLTHTVSRFAVSYEDKVNLLSAIKSPCPKETPEGSELKPWYEPIYL 198

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| |||||||:| | ||||||||||||||:|||
Db        199 GGVFQLEKGDRLSAEVNLPKYLDFAESGQVYFGVIAL 235


RESULT 12
S06192
tumor necrosis factor alpha precursor - goat (fragment)
N;Alternate names: cachectin; TNF alpha
C;Species: Capra aegagrus hircus (domestic goat)
C;Date: 28-Feb-1990 #sequence_revision 28-Feb-1990 #text_change 09-Jul-2004
C;Accession: S06192; S41867
R;Goldstein, I.M.; Henner, D.; Talhouk, A.
submitted to the EMBL Data Library, March 1989
A;Reference number: S06192
A;Accession: S06192
A;Molecule type: mRNA
A;Residues: 1-193 <GOL>
A;Cross-references: UNIPROT:P13296; UNIPARC:UPI000016C3FD; EMBL:X14828; NID:g992; PIDN:C
R;Rimstad, E.
submitted to the EMBL Data Library, January 1994
A;Reference number: S41867
A;Accession: S41867
A;Status: preliminary
A;Molecule type: mRNA
A;Residues: 36-38,'S',40-78,'A',80-88,'N',90-114,'Q',116-123,'D',125-144,'G',145-173,'L'
A;Cross-references: UNIPARC:UPI000016C3FE; EMBL:X77317; NID:g452607; PIDN:CAA54523.1; PI
C;Superfamily: tumor necrosis factor
C;Keywords: cytokine; cytotoxin; glycoprotein; lymphokine; macrophage; membrane protein
F;42/Binding site: carbohydrate (Ser) (covalent) #status predicted
F;106-138/Disulfide bonds: #status predicted

  Query Match             77.2%;  Score 622.5;  DB 2;  Length 193;
  Best Local Similarity   78.3%;  Pred. No. 5e-56;
  Matches  123;  Conservative   14;  Mismatches   19;  Indels    1;  Gaps    1;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              :||||:  |: |||||||| | |||:| :  |||| ||||||:|||||||::|||||||
Db         38 LRSSSQASSNKPVAHVVANISAPGQLRWGDSYANALKANGVELKDNQLVVPTDGLYLIYS 97

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| | ||||| : |||||||||||||||:||:|||| ||| ||||| ||| |||||||
Db         98 QVLFRGHGCPSTPLFLTHTISRIAVSYQTKVNILSAIKSPCHRETPE-AEAKPWYEPIYQ 156

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| |||||||||:|:|||:||||||||||||
Db        157 GGVFQLEKGDRLSAEINQPEYLDYAESGQVYFGIIAL 193


RESULT 13
JU0029
tumor necrosis factor alpha precursor - rat
N;Alternate names: cachectin; TNF alpha
C;Species: Rattus norvegicus (Norway rat)
C;Date: 07-Jun-1990 #sequence_revision 07-Jun-1990 #text_change 09-Jul-2004
C;Accession: JU0029; JN0868; S21674
R;Shirai, T.; Shimizu, N.; Horiguchi, S.; Ito, H.
Agric. Biol. Chem. 53, 1733-1736, 1989
A;Title: Cloning and expression in Escherichia coli of the gene for rat tumor necrosis f
A;Reference number: JU0029
A;Accession: JU0029
A;Molecule type: DNA
A;Residues: 1-235 <SHI>
A;Cross-references: UNIPROT:P16599; UNIPARC:UPI000004368F
R;Kwon, J.; Chung, I.Y.; Benveniste, E.N.
Gene 132, 227-236, 1993
A;Title: Cloning and sequence analysis of the rat tumor necrosis factor-encoding genes.
A;Reference number: JN0868; MUID:94040766; PMID:8224868
A;Accession: JN0868
A;Molecule type: DNA
A;Residues: 1-235 <KWO>
A;Cross-references: UNIPARC:UPI000004368F; GB:L00981; NID:g205253; PIDN:AAA16275.1; PID
R;Estler, H.C.; Grewe, M.; Gaussling, R.; Pavlovic, M.; Decker, K.
Biol. Chem. Hoppe-Seyler 373, 271-281, 1992
A;Title: Rat tumor necrosis factor-alpha. Transcription in rat Kupffer cells and in vitr
A;Reference number: S21674; MUID:92329007; PMID:1627266
A;Accession: S21674
A;Molecule type: mRNA
A;Residues: 1-38,'P',40-162,'T',164-201,'S',203-235 <EST>
A;Cross-references: UNIPARC:UPI000017086D; GB:X66539; GB:S40199; NID:g395369; PIDN:CAA47
C;Comment: Tumor necrosis factor is secreted by macrophages in response to endotoxin and
C;Genetics:
A;Gene: TNF-alpha
A;Introns: 62/3; 81/1; 97/1
C;Superfamily: tumor necrosis factor
C;Keywords: cytokine; cytotoxin; glycoprotein; lipoprotein; lymphokine; macrophage; memb
F;80-235/Product: tumor necrosis factor #status predicted <MAT>
F;19,20/Binding site: myristate (Lys) (covalent) #status predicted
F;84/Binding site: carbohydrate (Ser) (covalent) #status predicted
F;86/Binding site: carbohydrate (Asn) (covalent) #status predicted
F;148-179/Disulfide bonds: #status predicted

  Query Match             76.6%;  Score 617.5;  DB 2;  Length 235;
  Best Local Similarity   74.5%;  Pred. No. 2.1e-55;
  Matches  117;  Conservative   20;  Mismatches   19;  Indels    1;  Gaps    1;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              :||||:  || |||||||| ||| ||:||::|||||||||::|:|||||||::|||||||
Db         80 LRSSSQNSSDKPVAHVVANHQAEEQLEWLSQRANALLANGMDLKDNQLVVPADGLYLIYS 139

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| |||||  :||||||:|| |:||| :|:||||| ||| ::||||||  |||||:||
Db        140 QVLFKGQGCPD-YVLLTHTVSRFAISYQEKVSLLSAIKSPCPKDTPEGAELKPWYEPMYL 198

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| || ||||:| | |||  |||||||||:|||
Db        199 GGVFQLEKGDLLSAEVNLPKYLDITESGQVYFGVIAL 235


RESULT 14
JH0309
tumor necrosis factor beta precursor - rabbit
N;Alternate names: lymphotoxin; TNF beta
C;Species: Oryctolagus cuniculus (domestic rabbit)
C;Date: 10-Sep-1999 #sequence_revision 10-Sep-1999 #text_change 09-Jul-2004
C;Accession: JH0309; PN0098
R;Shakhov, A.N.; Kuprash, D.V.; Azizov, M.M.; Jongeneel, C.V.; Nedospasov, S.A.
Gene 95, 215-221, 1990
A;Title: Structural analysis of the rabbit TNF locus, containing the genes encoding TNF-
A;Reference number: JH0309; MUID:91065534; PMID:2249779
A;Accession: JH0309
A;Molecule type: DNA
A;Residues: 1-197 <SH2>
A;Cross-references: UNIPROT:P10154; UNIPARC:UPI00001370CE; GB:M60340; GB:M35326; NID:g16
R;Shakhov, A.N.; Kuprash, D.V.; Turetskaya, R.L.; Azizov, M.M.; Andreyeva, A.V.; Nedospa
Mol. Biol. (Mosk.) 23, 1743-1750, 1989
A;Title: Cloning and structural analysis of the genes, coding for rabbit tumor necrosis
A;Reference number: PN0098; MUID:90220566; PMID:2633043
A;Accession: PN0098
A;Molecule type: mRNA
A;Residues: 1-197 <SHA>
A;Cross-references: UNIPARC:UPI00001370CE; GB:X55745; NID:g297167; PIDN:CAA39275.1; PID
C;Genetics:
A;Introns: 25/3; 61/1
C;Superfamily: tumor necrosis factor
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C;Keywords: cytokine; cytotoxin; glycoprotein; lymphokine; macrophage
F;1-26/Domain: signal sequence #status predicted <SIG>
F;27-197/Product: lymphotoxin #status predicted <MAT>

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  Matches   60;  Conservative   20;  Mismatches   59;  Indels   11;  Gaps    4;

Qy         12 PVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYSQVLFSGQGCP- 70
              | ||:| :| |:  |:|      | | :|  | :| |:||| ||| :||||:|||:||
Db         55 PAAHLVGDPSAQDSLRWRANTDRAFLRHGFSLSNNSLLVPSSGLYFVYSQVVFSGEGCSP 114

Qy         71 ---STHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYLGGVFQLE 127
                 | : | | :   :  |   | |||  | |    |:|    ||   :| | || |
Db        115 KAVPTPLYLAHEVQLFSSQYSFHVPLLSAQKSVC--PGPQG----PWVRSVYQGAVFLLT 168

Qy        128 TGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
               ||:||   :   :|  : |  |:||  ||
Db        169 QGDQLSTHTDGIAHLLLSPS-SVFFGAFAL 197


RESULT 15
S24641
lymphotoxin - bovine
C;Species: Bos primigenius taurus (cattle)
C;Date: 10-Sep-1999 #sequence_revision 10-Sep-1999 #text_change 09-Jul-2004
C;Accession: I46046; S24641
R;Cludts, I.; Cleuter, Y.; Kettmann, R.; Burny, A.; Droogmans, L.
Cytokine 5, 336-341, 1993
A;Title: Cloning and characterization of the tandemly arranged bovine lymphotoxin and tu
A;Reference number: I46046; MUID:94083525; PMID:8260599
A;Accession: I46046
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-204 <CL2>
A;Cross-references: UNIPROT:Q06600; UNIPARC:UPI00001370CA; EMBL:Z14137; NID:g796; PIDN:C
C;Genetics:
A;Introns: 32/3; 68/1
C;Superfamily: tumor necrosis factor

  Query Match             31.3%;  Score 252;  DB 1;  Length 204;
  Best Local Similarity   35.4%;  Pred. No. 3.5e-18;
  Matches   63;  Conservative   22;  Mismatches   65;  Indels   28;  Gaps    5;

Qy          1 VRSSSRTPSDA----------------PVAHVVANPQAEGQLQWLNRRANALLANGVEL 43
              :|    ||| |                | ||:| :|  :  |:|      | | :|  |
Db         34 LRGIGLTPSAAQPAHQQLPTPFTRGTLKPAAHLVGDPSTQDSLRWRANTDRAFLRHGFSL 93

Qy         44 RDNQLVVPSEGLYLIYSQVLFSGQGC----PSTHVLLTHTISRIAVSYQTRVNLLSAIAS 99
               :| |:||: ||| :||||:|||:||      | : | | :   :  |   | ||||  |
Db         94 SNNSLLVPTSGLYFVYSQVVFSGRGCFPRATPTPLYLAHEVQLFSPQYPFHVPLLSAQKS 153

Qy        100 PCQRETPEGAEALPWYEPIYLGGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              |    |:|    ||   :| | || |  ||:||   :   :|  : |  |:||  ||
Db        154 VC--PGPQG----PWVRSVYQGAVFLLTRGDQLSTHTDGISHLLLSPS-SVFFGAFAL 204


Search completed: May  5, 2006, 11:27:51
Job time : 19 secs
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GenCore version 5.1.7

OM protein - protein search, using sw model

Run on: May 5, 2006, 11:21:53 ; Search time 53.5 Seconds
(without alignments)
2070.429 Million cell updates/sec

Title: US-10-668-178-15
Perfect score: 806
Sequence: 1 VRSSSRTPSDAPVAHVVANP.....RPDYLDFAESGQVYFGIIAL 157

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 2166443 seqs, 705528306 residues

Total number of hits satisfying chosen parameters: 2166443

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : UniProt_05.80:*
1: uniprot_sprot:*
2: uniprot_trembl:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	777	96.4	233	1	TNFA_HUMAN	P01375 homo sapien
2	777	96.4	233	2	Q5STB3_HUMAN	Q5stb3 homo sapien
3	770	95.5	233	1	TNFA_PAPSP	P33620 papio sp. (
4	768	95.3	232	1	TNFA_PANTR	Q8hzd9 pan troglod
5	759	94.2	233	1	TNFA_MACMU	P48094 macaca mula
6	756	93.8	233	1	TNFA_MACFA	P79337 macaca fasc
7	755	93.7	233	1	TNFA_PAPHU	O77510 papio hamad
8	752	93.3	233	1	TNFA_PAPAN	P59695 papio anubi
9	742	92.1	149	2	O97543_AOTNA	O97543 aotus nancy
10	736	91.3	233	1	TNFA_CANFA	P51742 canis famil
11	729	90.4	233	1	TNFA_FELCA	P19101 felis silve
12	704	87.3	233	1	TNFA_SAISC	Q8mkg8 saimiri sci
13	695	86.2	234	1	TNFA_HORSE	P29553 equus cabal
14	693	86.0	149	2	O97538_AOTVO	O97538 aotus vocif
15	693	86.0	149	2	Q9TTG8_AOTNI	Q9ttg8 aotus nigri
16	689	85.5	217	2	Q9BEG0_CYCDI	Q9beg0 cyclopes di
17	685	85.0	217	2	Q9BEG1_BRATR	Q9beg1 bradypus tr
18	677	84.0	233	1	TNFA_DELLE	Q8wnr1 delphinapte
19	675.5	83.8	232	1	TNFA_PIG	P23563 sus scrofa
20	659	81.8	233	1	TNFA_TURTR	Q9bea1 tursiops tr
21	650	80.6	217	2	Q9BEF4_CABUN	Q9bef4 cabassous u
22	640	79.4	138	2	Q9TTG7_AOTLE	Q9ttg7 aotus lemur
23	639	79.3	234	1	TNFA_CAPHI	P13296 capra hircu
24	637.5	79.1	235	1	TNFA_RABIT	P04924 oryctolagus
25	636	78.9	234	2	Q53ZM5_CAPHI	Q53zm5 capra hircu
26	635.5	78.8	234	1	TNFA_CAVPO	P51435 cavia porce
27	632.5	78.5	235	1	TNFA_MOUSE	P06804 mus musculu
28	631	78.3	234	2	Q539C2_TUPTA	Q539c2 tupaia tana
29	630	78.2	216	2	Q9BEC4_TALEU	Q9bec4 talpa europ
30	630	78.2	229	1	TNFA_CEREL	P51743 cervus elap
31	629	78.0	233	1	TNFA_BOVIN	Q06599 bos taurus
32	629	78.0	233	1	TNFA_BUBBU	P59693 bubalus bub
33	629	78.0	234	1	TNFA_BOSIN	P59684 bos indicus
34	627	77.8	234	1	TNFA_SHEEP	P23383 ovis aries
35	626.5	77.7	235	1	TNFA_PERLE	P36939 peromyscus
36	620.5	77.0	232	2	Q80XA4_PERMA	Q80xa4 peromyscus
37	620.5	77.0	235	2	Q5W9H9_MERUN	Q5w9h9 meriones un
38	617.5	76.6	235	1	TNFA_RAT	P16599 rattus norv
39	617.5	76.6	235	2	Q6EE11_RAT	Q6eel1 rattus norv
40	615	76.3	233	1	TNFA_CAMBA	Q75n23 camelus bac
41	615	76.3	233	1	TNFA_LAMGL	P59694 lama glama
42	609.5	75.6	156	2	Q91ZL4_SIGHI	Q91zl4 sigmodon hi
43	605.5	75.1	216	2	Q9BEC9_OCHPR	Q9bec9 ochotona pr
44	602.5	74.8	233	1	TNFA_MARMO	O35734 marmota mon
45	602.5	74.8	233	2	Q6X658_MARMO	Q6x658 marmota mon

ALIGNMENTS

RESULT 1
TNFA_HUMAN
ID TNFA_HUMAN STANDARD; PRT; 233 AA.
AC P01375; O43647; Q9P1Q2; Q9UIV3;
DT 21-JUL-1986 (Rel. 01, Created)
DT 21-JUL-1986 (Rel. 01, Last sequence update)
DT 13-SEP-2005 (Rel. 48, Last annotation update)
DE Tumor necrosis factor precursor (TNF-alpha) (Tumor necrosis factor
DE ligand superfamily member 2) (TNF-a) (Cachectin) [Contains: Tumor
DE necrosis factor, membrane form; Tumor necrosis factor, soluble form].
GN Name=TNF; Synonyms=TNFA, TNFSF2;
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini; Hominidae;
OC Homo.
OX NCBI_TaxID=9606;
RN [1]
RP NUCLEOTIDE SEQUENCE.
RX MEDLINE=87217060; PubMed=3555974;
RA Nedospasov S.A., Shakhov A.N., Turetskaya R.L., Mett V.A.,
RA Azizov M.M., Georgiev G.P., Korobko V.G., Dobrynin V.N.,
RA Filippov S.A., Bystrov N.S., Boldyreva E.F., Chuvpilo S.A.,
RA Chumakov A.M., Shingarova L.N., Ovchinnikov Y.A.;
RT "Tandem arrangement of genes coding for tumor necrosis factor (TNF-
RT alpha) and lymphotoxin (TNF-beta) in the human genome.";
RL Cold Spring Harb. Symp. Quant. Biol. 51:611-624(1986).
RN [2]
RP NUCLEOTIDE SEQUENCE.
RX MEDLINE=85086244; PubMed=6392892;
RA Pennica D., Nedwin G.E., Hayflick J.S., Seeburg P.H., Derynck R.,
RA Palladino M.A., Kohr W.J., Aggarwal B.B., Goeddel D.V.;
RT "Human tumour necrosis factor: precursor structure, expression and
RT homology to lymphotoxin.";
RL Nature 312:724-729(1984).
RN [3]
RP NUCLEOTIDE SEQUENCE.
RX MEDLINE=85137898; PubMed=3883195;
RA Shirai T., Yamaguchi H., Ito H., Todd C.W., Wallace R.B.;
RT "Cloning and expression in Escherichia coli of the gene for human
RT tumour necrosis factor.";
RL Nature 313:803-806(1985).
RN [4]
RP NUCLEOTIDE SEQUENCE.
RX MEDLINE=86016093; PubMed=2995927;
RA Nedwin G.E., Naylor S.L., Sakaguchi A.Y., Smith D.H.,
RA Jarrett-Nedwin J., Pennica D., Goeddel D.V., Gray P.W.;
RT "Human lymphotoxin and tumor necrosis factor genes: structure,
RT homology and chromosomal localization.";
RL Nucleic Acids Res. 13:6361-6373(1985).
RN [5]
RP NUCLEOTIDE SEQUENCE.
RX MEDLINE=85142190; PubMed=3856324;
RA Wang A.M., Creasey A.A., Ladner M.B., Lin L.S., Strickler J.,
RA van Arsdell J.N., Yamamoto R., Mark D.F.;

RT "Molecular cloning of the complementary DNA for human tumor necrosis
RT factor.";
RL Science 228:149-154(1985).
RN [6]
RP NUCLEOTIDE SEQUENCE.
RX MEDLINE=86030296; PubMed=3932069;
RA Marmenout A., Fransen L., Tavernier J., van der Heyden J., Tizard R.,
RA Kawashima E., Shaw A., Johnson M.J., Semon D., Mueller R.,
RA Ruysschaert M.R., van Vliet A., Fiers W.;
RT "Molecular cloning and expression of human tumor necrosis factor and
RT comparison with mouse tumor necrosis factor.";
RL Eur. J. Biochem. 152:515-522(1985).
RN [7]
RP NUCLEOTIDE SEQUENCE.
RX MEDLINE=93272029; PubMed=8499947;
RA Iris F.J.M., Bougueleret L., Prieur S., Caterina D., Primas G.,
RA Perrot V., Jurka J., Rodriguez-Tome P., Claverie J.-M., Dausset J.,
RA Cohen D.;
RT "Dense Alu clustering and a potential new member of the NF kappa B
RT family within a 90 kilobase HLA class III segment.";
RL Nat. Genet. 3:137-145(1993).
RN [8]
RP NUCLEOTIDE SEQUENCE.
RX MEDLINE=99218514; PubMed=10202016;
RA Neville M.J., Campbell R.D.;
RT "A new member of the Ig superfamily and a V-ATPase G subunit are among
RT the predicted products of novel genes close to the TNF locus in the
RT human MHC.";
RL J. Immunol. 162:4745-4754(1999).
RN [9]
RP NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].
RX PubMed=14656967; DOI=10.1101/gr.1736803;
RA Xie T., Rowen L., Aguado B., Ahearn M.E., Madan A., Qin S.,
RA Campbell R.D., Hood L.;
RT "Analysis of the gene-dense major histocompatibility complex class III
RT region and its comparison to mouse.";
RL Genome Res. 13:2621-2636(2003).
RN [10]
RP NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].
RA Shiina S., Tamiya G., Oka A., Inoko H.;
RT "Homo sapiens 2,229,817bp genomic DNA of 6p21.3 HLA class I region.";
RL Submitted (SEP-1999) to the EMBL/GenBank/DDBJ databases.
RN [11]
RP NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].
RA Shiina T., Ota M., Katsuyama Y., Hashimoto N., Inoko H.;
RT "Genome diversity in HLA: a new strategy for detection of genetic
RT polymorphisms in expressed genes within the HLA class III and class I
RT regions.";
RL Submitted (JUL-2002) to the EMBL/GenBank/DDBJ databases.
RN [12]
RP NUCLEOTIDE SEQUENCE [GENOMIC DNA].
RA Rieder M.J., Carrington D.P., Chung M.-W., Lee K.L., Poel C.L., Yi Q.,
RA Nickerson D.A.;
RT "SeattleSNPs. NHLBI HL66682 program for genomic applications, UW-
RT FHCRC, Seattle, WA (URL: http://pga.gs.washington.edu).";
RL Submitted (DEC-2001) to the EMBL/GenBank/DDBJ databases.
RN [13]
RP NUCLEOTIDE SEQUENCE [GENOMIC DNA], AND VARIANT LEU-84.
RA Rieder M.J., Livingston R.J., Daniels M.R., Montoya M.A., Chung M.-W.,
RA Miyamoto K.E., Nguyen C.P., Nguyen D.A., Poel C.L., Robertson P.D.,
RA Schackwitz W.S., Sherwood J.K., Witrak L.A., Nickerson D.A.;
RT "NIEHS-SNPs, environmental genome project, NIEHS ES15478, Department
RT of Genome Sciences, Seattle, WA (URL: http://egp.gs.washington.edu).";
RL Submitted (JAN-2003) to the EMBL/GenBank/DDBJ databases.
RN [14]
RP NUCLEOTIDE SEQUENCE [LARGE SCALE MRNA].
RC TISSUE=Blood;
RX MEDLINE=22388257; PubMed=12477932; DOI=10.1073/pnas.242603899;
RA Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,
RA Klausner R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D.,
RA Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,
RA Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,
RA Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,
RA Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,
RA Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,
RA Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,
RA Bosak S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,
RA Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,
RA Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,
RA Fahey J., Helton E., Ketteman M., Madan A., Rodrigues S., Sanchez A.,
RA Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,
RA Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C.,
RA Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M.,
RA Butterfield Y.S.N., Krzywinski M.I., Skalska U., Smailus D.E.,
RA Schnerch A., Schein J.E., Jones S.J.M., Marra M.A.;
RT "Generation and initial analysis of more than 15,000 full-length human
RT and mouse cDNA sequences.";
RL Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002).
RN [15]
RP NUCLEOTIDE SEQUENCE OF 77-233.
RA Jang J.S., Kim B.E.;
RL Submitted (JAN-1998) to the EMBL/GenBank/DDBJ databases.
RN [16]
RP NUCLEOTIDE SEQUENCE OF 84-214.
RC TISSUE=Prostatic carcinoma;
RA Shao C., Yan W., Zhu F., Yue W., Chai Y., Zhao Z., Wang C.;
RL Submitted (MAR-2000) to the EMBL/GenBank/DDBJ databases.
RN [17]
RP PHOSPHORYLATION (MEMBRANE FORM).
RX MEDLINE=96170872; PubMed=8597870;
RA Pocsik E., Duda E., Wallach D.;
RT "Phosphorylation of the 26 kDa TNF precursor in monocytic cells and in
RT transfected HeLa cells.";
RL J. Inflamm. 45:152-160(1995).
RN [18]
RP PHOSPHORYLATION BY CK1, AND DEPHOSPHORYLATION.
RX MEDLINE=99221647; PubMed=10205166; DOI=10.1093/emboj/18.8.2119;
RA Watts A.D., Hunt N.H., Wanigasekara Y., Bloomfield G., Wallach D.,
RA Roufogalis B.D., Chaudhri G.;
RT "A casein kinase I motif present in the cytoplasmic domain of members
RT of the tumour necrosis factor ligand family is implicated in 'reverse
RT signalling'.";
RL EMBO J. 18:2119-2126(1999).
RN [19]
RP MUTAGENESIS.
RX MEDLINE=91184128; PubMed=2009860;
RA Ostade X.V., Tavernier J., Prange T., Fiers W.;
RT "Localization of the active site of human tumour necrosis factor
RT (hTNF) by mutational analysis.";
RL EMBO J. 10:827-836(1991).
RN [20]
RP MYRISTOYLATION.
RX MEDLINE=93018820; PubMed=1402651; DOI=10.1084/jem.176.4.1053;
RA Stevenson F.T., Bursten S.L., Locksley R.M., Lovett D.H.;
RT "Myristyl acylation of the tumor necrosis factor alpha precursor on
RT specific lysine residues.";
RL J. Exp. Med. 176:1053-1062(1992).
RN [21]
RP CLEAVAGE BY ADAM17.
RX MEDLINE=97186575; PubMed=9034191;
RA Moss M.L., Jin S.-L.C., Milla M.E., Burkhart W., Carter H.L.,
RA Chen W.-J., Clay W.C., Didsbury J.R., Hassler D., Hoffman C.R.,
RA Kost T.A., Lambert M.H., Leesnitzer M.A., McCauley P., McGeehan G.,
RA Mitchell J., Moyer M., Pahel G., Rocque W., Overton L.K., Schoenen F.,
RA Seaton T., Su J.-L., Warner J., Willard D., Becherer J.D.;
RT "Cloning of a disintegrin metalloproteinase that processes precursor
RT tumour-necrosis factor-alpha.";
RL Nature 385:733-736(1997).
RN [22]
RP X-RAY CRYSTALLOGRAPHY (2.9 ANGSTROMS).
RX MEDLINE=89159409; PubMed=2922050; DOI=10.1038/338225a0;
RA Jones E.Y., Stuart D.I., Walker N.P.;
RT "Structure of tumour necrosis factor.";
RL Nature 338:225-228(1989).
RN [23]
RP X-RAY CRYSTALLOGRAPHY (2.9 ANGSTROMS).

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RX   MEDLINE=91193276; PubMed=1964681;
RA   Jones E.Y., Stuart D.I., Walker N.P.;

  Query Match             96.4%;  Score 777;  DB 1;  Length 233;
  Best Local Similarity   96.2%;  Pred. No. 5.3e-71;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| |||||||||||||||||||||||||||||||||||||||||||||||||
Db         77 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 136

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| |||||||||||||||||||||||:||||||| |||||||||||| ||||||||
Db        137 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 196

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||||||||||||||||||||||
Db        197 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 233


RESULT 2
Q5STB3_HUMAN
ID   Q5STB3_HUMAN PRELIMINARY;      PRT;   233 AA.
AC   Q5STB3;
DT   01-FEB-2005 (TrEMBLrel. 29, Created)
DT   01-FEB-2005 (TrEMBLrel. 29, Last sequence update)
DT   13-SEP-2005 (TrEMBLrel. 31, Last annotation update)
DE   Tumor necrosis factor (TNF superfamily, member 2).
GN   Name=TNF;
GN   ORFNames=DAQB-87N14.5-001, DASS-280D8.2-001, XXbac-BCX270M2.1-001,
GN   XXbac-BPG296P20.12-001;
OS   Homo sapiens (Human).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini; Hominidae;
OC   Homo.
OX   NCBI_TaxID=9606;
RN   [1]
RP   NUCLEOTIDE SEQUENCE.
RA   Tracey A.;
RL   Submitted (MAY-2005) to the EMBL/GenBank/DDBJ databases.
DR   EMBL; AL662847; CAI17678.1; -; Genomic_DNA.
DR   EMBL; AL929587; CAI18649.1; -; Genomic_DNA.
DR   EMBL; AL662801; CAI18292.1; -; Genomic_DNA.
DR   EMBL; BX248519; CAI41940.1; -; Genomic_DNA.
DR   SMR; Q5STB3; 82-233.
DR   GO; GO:0016020; C:membrane; IEA.
DR   GO; GO:0005164; F:tumor necrosis factor receptor binding; IEA.
DR   GO; GO:0006955; P:immune response; IEA.
DR   InterPro; IPR006053; TNF_abc.
DR   InterPro; IPR002959; TNF_alpha.
DR   InterPro; IPR006052; TNF_family.
DR   Pfam; PF00229; TNF; 1.
DR   PRINTS; PR01234; TNECROSISFCT.
DR   PRINTS; PR01235; TNFALPHA.
DR   SMART; SM00207; TNF; 1.
DR   PROSITE; PS00251; TNF_1; 1.
DR   PROSITE; PS50049; TNF_2; 1.
SQ   SEQUENCE   233 AA;  25644 MW;  3DF90F96C9031FFE CRC64;

  Query Match             96.4%;  Score 777;  DB 2;  Length 233;
  Best Local Similarity   96.2%;  Pred. No. 5.3e-71;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| |||||||||||||||||||||||||||||||||||||||||||||||||
Db         77 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 136

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| |||||||||||||||||||||||:||||||| |||||||||||| ||||||||
Db        137 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 196

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||||||||||||||||||||||
Db        197 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 233


RESULT 3
TNFA_PAPSP
ID   TNFA_PAPSP      STANDARD;      PRT;   233 AA.
AC   P33620;
DT   01-FEB-1994 (Rel. 28, Created)
DT   01-FEB-1994 (Rel. 28, Last sequence update)
DT   13-SEP-2005 (Rel. 48, Last annotation update)
DE   Tumor necrosis factor precursor (TNF-alpha) (Tumor necrosis factor
DE   ligand superfamily member 2) (TNF-a) (Cachectin) [Contains: Tumor
DE   necrosis factor, membrane form; Tumor necrosis factor, soluble form].
GN   Name=TNF; Synonyms=TNFA, TNFSF2;
OS   Papio sp. (Baboon).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini;
OC   Cercopithecidae; Cercopithecinae; Papio.
OX   NCBI_TaxID=61183;
RN   [1]
RP   NUCLEOTIDE SEQUENCE.
RA   Sanjanwala M., Edwards A.;
RL   Submitted (SEP-1991) to the EMBL/GenBank/DDBJ databases.
CC   -!- FUNCTION: Cytokine that binds to TNFRSF1A/TNFR1 and
CC       TNFRSF1B/TNFBR. It is mainly secreted by macrophages and can
CC       induce cell death of certain tumor cell lines. It is potent
CC       pyrogen causing fever by direct action or by stimulation of
CC       interleukin 1 secretion and is implicated in the induction of
CC       cachexia, Under certain conditions it can stimulate cell
CC       proliferation and induce cell differentiation.
CC   -!- SUBUNIT: Homotrimer (By similarity).
CC   -!- SUBCELLULAR LOCATION: Type II membrane protein. Also exists as an
CC       extracellular soluble form (By similarity).
CC   -!- PTM: The soluble form derives from the membrane form by
CC       proteolytic processing (By similarity).
CC   -!- PTM: The membrane form, but not the soluble form, is
CC       phosphorylated on serine residues. Dephosphorylation of the
CC       membrane form occurs by binding to soluble TNFRSF1A/TNFR1 (By
CC       similarity).
CC   -!- SIMILARITY: Belongs to the tumor necrosis factor family.
CC   ---------------------------------------------------------------------
CC   This Swiss-Prot entry is copyright. It is produced through a collaboration
CC   between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC   the European Bioinformatics Institute. There are no restrictions on its
CC   use as long as its content is in no way modified and this statement is not
CC   removed.
CC   ---------------------------------------------------------------------
DR   EMBL; X62141; CAA44068.1; -; Genomic_DNA.
DR   PIR; S22052; S22052.
DR   HSSP; P01375; 1A8M.
DR   SMR; P33620; 82-233.
DR   InterPro; IPR006053; TNF_abc.
DR   InterPro; IPR002959; TNF_alpha.
DR   InterPro; IPR006052; TNF_family.
DR   InterPro; IPR003636; TNF_subf.
DR   PANTHER; PTHR11471:SF4; TNF_alpha; 1.
DR   Pfam; PF00229; TNF; 1.
DR   PRINTS; PR01234; TNECROSISFCT.
DR   PRINTS; PR01235; TNFALPHA.
DR   ProDom; PD002012; TNF_subf; 1.
DR   SMART; SM00207; TNF; 1.
DR   PROSITE; PS00251; TNF_1; 1.
DR   PROSITE; PS50049; TNF_2; 1.
KW   Cytokine; Phosphorylation; Signal-anchor; Transmembrane.
FT   CHAIN         1    233       Tumor necrosis factor, membrane form.
FT   CHAIN        77    233       Tumor necrosis factor, soluble form.
FT   TOPO_DOM      1     35       Cytoplasmic (Potential).
FT   TRANSMEM     36     56       Signal-anchor for type II membrane
FT                                 protein (Potential).
FT   TOPO_DOM     57    233       Extracellular (Potential).
FT   SITE         76     77       Cleavage (by ADAM17) (By similarity).
FT   MOD_RES       2      2       Phosphoserine (by CK1) (By similarity).
FT   DISULFID    145    177       By similarity.

Db        197 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 233


RESULT 3
TNFA_PAPSP
ID   TNFA_PAPSP      STANDARD;      PRT;   233 AA.
AC   P33620;
DT   01-FEB-1994 (Rel. 28, Created)
DT   01-FEB-1994 (Rel. 28, Last sequence update)
DT   13-SEP-2005 (Rel. 48, Last annotation update)
DE   Tumor necrosis factor precursor (TNF-alpha) (Tumor necrosis factor
DE   ligand superfamily member 2) (TNF-a) (Cachectin) [Contains: Tumor
DE   necrosis factor, membrane form; Tumor necrosis factor, soluble form].
GN   Name=TNF; Synonyms=TNFA, TNFSF2;
OS   Papio sp. (Baboon).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini;
OC   Cercopithecidae; Cercopithecinae; Papio.
OX   NCBI_TaxID=61183;
RN   [1]
RP   NUCLEOTIDE SEQUENCE.
RA   Sanjanwala M., Edwards A.;
RL   Submitted (SEP-1991) to the EMBL/GenBank/DDBJ databases.
CC   -!- FUNCTION: Cytokine that binds to TNFRSF1A/TNFR1 and
CC       TNFRSF1B/TNFBR. It is mainly secreted by macrophages and can
CC       induce cell death of certain tumor cell lines. It is potent
CC       pyrogen causing fever by direct action or by stimulation of
CC       interleukin 1 secretion and is implicated in the induction of
CC       cachexia, Under certain conditions it can stimulate cell
CC       proliferation and induce cell differentiation.
CC   -!- SUBUNIT: Homotrimer (By similarity).
CC   -!- SUBCELLULAR LOCATION: Type II membrane protein. Also exists as an
CC       extracellular soluble form (By similarity).
CC   -!- PTM: The soluble form derives from the membrane form by
CC       proteolytic processing (By similarity).
CC   -!- PTM: The membrane form, but not the soluble form, is
CC       phosphorylated on serine residues. Dephosphorylation of the
CC       membrane form occurs by binding to soluble TNFRSF1A/TNFR1 (By
CC       similarity).
CC   -!- SIMILARITY: Belongs to the tumor necrosis factor family.
CC   ---------------------------------------------------------------------
CC   This Swiss-Prot entry is copyright. It is produced through a collaboration
CC   between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC   the European Bioinformatics Institute. There are no restrictions on its
CC   use as long as its content is in no way modified and this statement is not
CC   removed.
CC   ---------------------------------------------------------------------
DR   EMBL; X62141; CAA44068.1; -; Genomic_DNA.
DR   PIR; S22052; S22052.
DR   HSSP; P01375; 1A8M.
DR   SMR; P33620; 82-233.
DR   InterPro; IPR006053; TNF_abc.
DR   InterPro; IPR002959; TNF_alpha.
DR   InterPro; IPR006052; TNF_family.
DR   InterPro; IPR003636; TNF_subf.
DR   PANTHER; PTHR11471:SF4; TNF_alpha; 1.
DR   Pfam; PF00229; TNF; 1.
DR   PRINTS; PR01234; TNECROSISFCT.
DR   PRINTS; PR01235; TNFALPHA.
DR   ProDom; PD002012; TNF_subf; 1.
DR   SMART; SM00207; TNF; 1.
DR   PROSITE; PS00251; TNF_1; 1.
DR   PROSITE; PS50049; TNF_2; 1.
KW   Cytokine; Phosphorylation; Signal-anchor; Transmembrane.
FT   CHAIN         1    233       Tumor necrosis factor, membrane form.
FT   CHAIN        77    233       Tumor necrosis factor, soluble form.
FT   TOPO_DOM      1     35       Cytoplasmic (Potential).
FT   TRANSMEM     36     56       Signal-anchor for type II membrane
FT                                 protein (Potential).
FT   TOPO_DOM     57    233       Extracellular (Potential).
FT   SITE         76     77       Cleavage (by ADAM17) (By similarity).
FT   MOD_RES       2      2       Phosphoserine (by CK1) (By similarity).
FT   DISULFID    145    177       By similarity.
```

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SQ   SEQUENCE   233 AA;  25557 MW;  455360B48DC74173 CRC64;

  Query Match             95.5%;  Score 770;  DB 1;  Length 233;
  Best Local Similarity   95.5%;  Pred. No. 2.7e-70;
  Matches  150;  Conservative    1;  Mismatches    6;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||
Db         77 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 136

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| |||||||||||||||||||||:||||||| |||||||||||| ||||||||
Db        137 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 196

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||| ||||||||||||||||||||
Db        197 GGVFQLEKGDRLSAEINLPDYLDFAESGQVYFGIIAL 233


RESULT 4
TNFA_PANTR
ID   TNFA_PANTR     STANDARD;      PRT;   232 AA.
AC   Q8HZD9;
DT   10-OCT-2003 (Rel. 42, Created)
DT   10-OCT-2003 (Rel. 42, Last sequence update)
DT   13-SEP-2005 (Rel. 48, Last annotation update)
DE   Tumor necrosis factor precursor (TNF-alpha) (Tumor necrosis factor
DE   ligand superfamily member 2) (TNF-a) (Cachectin) [Contains: Tumor
DE   necrosis factor, membrane form; Tumor necrosis factor, soluble form].
GN   Name=TNF; Synonyms=TNFA, TNFSF2;
OS   Pan troglodytes (Chimpanzee).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini; Hominidae;
OC   Pan.
OX   NCBI_TaxID=9598;
RN   [1]
RP   NUCLEOTIDE SEQUENCE.
RX   MEDLINE=22381002; PubMed=12493009;
RX   DOI=10.1034/j.1600-065X.2002.19008.x;
RA   Kulski J.K., Shiina T., Anzai T., Kohara S., Inoko H.;
RT   "Comparative genomic analysis of the MHC: the evolution of class I
RT   duplication blocks, diversity and complexity from shark to man.";
RL   Immunol. Rev. 190:95-122(2002).
RN   [2]
RP   NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].
RX   MEDLINE=22709134; PubMed=12799463; DOI=10.1073/pnas.1230533100;
RA   Anzai T., Shiina T., Kimura N., Yanagiya K., Kohara S., Shigenari A.,
RA   Yamagata T., Kulski J.K., Naruse T.K., Fujimori Y., Fukuzumi Y.,
RA   Yamazaki M., Tashiro H., Iwamoto C., Umehara Y., Imanishi T.,
RA   Meyer A., Ikeo K., Gojobori T., Bahram S., Inoko H.;
RT   "Comparative sequencing of human and chimpanzee MHC class I regions
RT   unveils insertions/deletions as the major path to genomic
RT   divergence.";
RL   Proc. Natl. Acad. Sci. U.S.A. 100:7708-7713(2003).
RN   [3]
RP   NUCLEOTIDE SEQUENCE OF 33-186.
RA   O'Huigin C., Tichy H., Klein J.;
RT   "Molecular evolution in higher primates; gene specific and organism
RT   specific characteristics.";
RL   Submitted (MAR-2002) to the EMBL/GenBank/DDBJ databases.
CC   -!- FUNCTION: Cytokine that binds to TNFRSF1A/TNFR1 and
CC       TNFRSF1B/TNFBR. It is mainly secreted by macrophages and can
CC       induce cell death of certain tumor cell lines. It is potent
CC       pyrogen causing fever by direct action or by stimulation of
CC       interleukin 1 secretion and is implicated in the induction of
CC       cachexia, Under certain conditions it can stimulate cell
CC       proliferation and induce cell differentiation (By similarity).
CC   -!- SUBUNIT: Homotrimer (By similarity).
CC   -!- SUBCELLULAR LOCATION: Type II membrane protein. Also exists as an
CC       extracellular soluble form (By similarity).
CC   -!- PTM: The soluble form derives from the membrane form by
CC       proteolytic processing (By similarity).
CC   -!- PTM: The membrane form, but not the soluble form, is
CC       phosphorylated on serine residues. Dephosphorylation of the
CC       membrane form occurs by binding to soluble TNFRSF1A/TNFR1 (By
CC       similarity).
CC   -!- SIMILARITY: Belongs to the tumor necrosis factor family.
CC   ---------------------------------------------------------------------
CC   This Swiss-Prot entry is copyright. It is produced through a collaboration
CC   between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC   the European Bioinformatics Institute. There are no restrictions on its
CC   use as long as its content is in no way modified and this statement is not
CC   removed.
CC   ---------------------------------------------------------------------
DR   EMBL; AB054536; BAB83882.1; -; Genomic_DNA.
DR   EMBL; BA000041; BAC78157.1; -; Genomic_DNA.
DR   EMBL; AY091964; AAM76582.1; -; Genomic_DNA.
DR   HSSP; P01375; 4TSV.
DR   SMR; Q8HZD9; 81-232.
DR   InterPro; IPR006053; TNF_abc.
DR   InterPro; IPR002959; TNF_alpha.
DR   InterPro; IPR006052; TNF_family.
DR   InterPro; IPR003636; TNF_subf.
DR   PANTHER; PTHR11471:SF4; TNF_alpha; 1.
DR   Pfam; PF00229; TNF; 1.
DR   PRINTS; PR01234; TNECROSISFCT.
DR   PRINTS; PR01235; TNFALPHA.
DR   ProDom; PD002012; TNF_subf; 1.
DR   PROSITE; PS00251; TNF_1; 1.
DR   PROSITE; PS50049; TNF_2; 1.
KW   Cytokine; Phosphorylation; Signal-anchor; Transmembrane.
FT   CHAIN         1    232       Tumor necrosis factor, membrane form (By
FT                                 similarity).
FT   CHAIN        77    232       Tumor necrosis factor, soluble form (By
FT                                 similarity).
FT   TOPO_DOM      1     34       Cytoplasmic (Potential).
FT   TRANSMEM     35     57       Signal-anchor for type II membrane
FT                                 protein (By similarity).
FT   TOPO_DOM     58    232       Extracellular (Potential).
FT   SITE         76     77       Cleavage (by ADAM17) (By similarity).
FT   MOD_RES       2      2       Phosphoserine (by CK1) (By similarity).
FT   DISULFID    144    176       By similarity.
FT   CONFLICT     77     77       G -> VR (in Ref. 3).
SQ   SEQUENCE   232 AA;  25446 MW;  E4D71B19C6AE0D03 CRC64;

  Query Match             95.3%;  Score 768;  DB 1;  Length 232;
  Best Local Similarity   96.1%;  Pred. No. 4.4e-70;
  Matches  149;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          3 SSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYSQV 62
              |||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||
Db         78 SSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYSQV 137

Qy         63 LFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYLGG 122
              || |||||||||||||||||||||:||||||| |||||||||||| ||||||||||
Db        138 LFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYLGG 197

Qy        123 VFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||| ||||||||||||||||||||||||||||||
Db        198 VFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 232


RESULT 5
TNFA_MACMU
ID   TNFA_MACMU     STANDARD;      PRT;   233 AA.
AC   P48094; Q5TM21; Q8HZD6;
DT   01-FEB-1996 (Rel. 33, Created)
DT   01-FEB-1996 (Rel. 33, Last sequence update)
DT   13-SEP-2005 (Rel. 48, Last annotation update)
DE   Tumor necrosis factor precursor (TNF-alpha) (Tumor necrosis factor
DE   ligand superfamily member 2) (TNF-a) (Cachectin) [Contains: Tumor
DE   necrosis factor, membrane form; Tumor necrosis factor, soluble form].
GN   Name=TNF; Synonyms=TNFA, TNFSF2;
OS   Macaca mulatta (Rhesus macaque).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini;
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OC   Cercopithecidae; Cercopithecinae; Macaca.
OX   NCBI_TaxID=9544;
RN   [1]
RP   NUCLEOTIDE SEQUENCE [MRNA].
RX   MEDLINE=96003435; PubMed=7561102;
RA   Villinger F.J., Brar S.S., Mayne A.E., Chikkala N., Ansari A.A.;
RT   "Comparative sequence analysis of cytokine genes from human and
RT   nonhuman primates.";
RL   J. Immunol. 155:3946-3954(1995).
RN   [2]
RP   NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].
RX   PubMed=15269276; DOI=10.1093/molbev/msh216;
RA   Kulski J.K., Anzai T., Shiina T., Inoko H.;
RT   "Rhesus macaque class I duplicon structures, organization, and
RT   evolution within the alpha block of the major histocompatibility
RT   complex.";
RL   Mol. Biol. Evol. 21:2079-2091(2004).
RN   [3]
RP   NUCLEOTIDE SEQUENCE [GENOMIC DNA] OF 33-187.
RA   O'Huigin C., Tichy H., Klein J.;
RT   "Molecular evolution in higher primates; gene specific and organism
RT   specific characteristics.";
RL   Submitted (MAR-2002) to the EMBL/GenBank/DDBJ databases.
CC   -!- FUNCTION: Cytokine that binds to TNFRSF1A/TNFR1 and
CC       TNFRSF1B/TNFBR. It is mainly secreted by macrophages and can
CC       induce cell death of certain tumor cell lines. It is potent
CC       pyrogen causing fever by direct action or by stimulation of
CC       interleukin 1 secretion and is implicated in the induction of
CC       cachexia, Under certain conditions it can stimulate cell
CC       proliferation and induce cell differentiation.
CC   -!- SUBUNIT: Homotrimer (By similarity).
CC   -!- SUBCELLULAR LOCATION: Type II membrane protein. Also exists as an
CC       extracellular soluble form (By similarity).
CC   -!- PTM: The soluble form derives from the membrane form by
CC       proteolytic processing (By similarity).
CC   -!- PTM: The membrane form, but not the soluble form, is
CC       phosphorylated on serine residues. Dephosphorylation of the
CC       membrane form occurs by binding to soluble TNFRSF1A/TNFR1 (By
CC       similarity).
CC   -!- SIMILARITY: Belongs to the tumor necrosis factor family.
CC   ---------------------------------------------------------------------
CC   This Swiss-Prot entry is copyright. It is produced through a collaboration
CC   between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC   the European Bioinformatics Institute. There are no restrictions on its
CC   use as long as its content is in no way modified and this statement is not
CC   removed.
CC   ---------------------------------------------------------------------
DR   EMBL; U19850; AAA86712.1; -; mRNA.
DR   EMBL; AB128049; BAD69724.1; -; Genomic_DNA.
DR   EMBL; AY091967; AAM76585.1; -; Genomic_DNA.
DR   HSSP; P01375; 4TSV.
DR   SMR; P48094; 82-233.
DR   InterPro; IPR006053; TNF_abc.
DR   InterPro; IPR002959; TNF_alpha.
DR   InterPro; IPR006052; TNF_family.
DR   InterPro; IPR003636; TNF_subf.
DR   PANTHER; PTHR11471:SF4; TNF_alpha; 1.
DR   Pfam; PF00229; TNF; 1.
DR   PRINTS; PR01234; TNECROSISFCT.
DR   PRINTS; PR01235; TNFALPHA.
DR   ProDom; PD002012; TNF_subf; 1.
DR   SMART; SM00207; TNF; 1.
DR   PROSITE; PS00251; TNF_1; 1.
DR   PROSITE; PS50049; TNF_2; 1.
KW   Cytokine; Phosphorylation; Signal-anchor; Transmembrane.
FT   CHAIN        1    233       Tumor necrosis factor, membrane form.
FT   CHAIN       77    233       Tumor necrosis factor, soluble form.
FT   TOPO_DOM     1     35       Cytoplasmic (Potential).
FT   TRANSMEM    36     56       Signal-anchor for type II membrane
FT                               protein (Potential).
FT   TOPO_DOM    57    233       Extracellular (Potential).
FT   SITE        76     77       Cleavage (by ADAM17) (By similarity).
FT   MOD_RES      2      2       Phosphoserine (by CK1) (By similarity).
FT   DISULFID   145    177       By similarity.
SQ   SEQUENCE   233 AA;  25630 MW;  9F6F85050595FD59 CRC64;

  Query Match             94.2%;  Score 759;  DB 1;  Length 233;
  Best Local Similarity   94.3%;  Pred. No. 3.7e-69;
  Matches  148;  Conservative    1;  Mismatches    8;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| |||||||||||||||||||||||||||||| ||||||||||||||||
Db         77 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELTDNQLVVPSEGLYLIYS 136

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| |||||| ||||||||||||||||:|||||| |||||||||||| ||||||||
Db        137 QVLFKGQGCPSNHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 196

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||| ||||||||||||||||||
Db        197 GGVFQLEKGDRLSAEINLPDYLDFAESGQVYFGIIAL 233


RESULT 6
TNFA_MACFA
ID   TNFA_MACFA     STANDARD;      PRT;   233 AA.
AC   P79337;
DT   15-JUL-1998 (Rel. 36, Created)
DT   15-JUL-1998 (Rel. 36, Last sequence update)
DT   13-SEP-2005 (Rel. 48, Last annotation update)
DE   Tumor necrosis factor precursor (TNF-alpha) (Tumor necrosis factor
DE   ligand superfamily member 2) (TNF-a) (Cachectin) [Contains: Tumor
DE   necrosis factor, membrane form; Tumor necrosis factor, soluble form].
GN   Name=TNF; Synonyms=TNFA, TNFSF2;
OS   Macaca fascicularis (Crab eating macaque) (Cynomolgus monkey).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini;
OC   Cercopithecidae; Cercopithecinae; Macaca.
OX   NCBI_TaxID=9541;
RN   [1]
RP   NUCLEOTIDE SEQUENCE [MRNA].
RC   TISSUE=Lymphocyte;
RA   Tatsumi M.;
RT   "Molecular cloning and expression of cynomolgus monkey TNF-alpha.";
RL   Submitted (JAN-1997) to the EMBL/GenBank/DDBJ databases.
CC   -!- FUNCTION: Cytokine that binds to TNFRSF1A/TNFR1 and
CC       TNFRSF1B/TNFBR. It is mainly secreted by macrophages and can
CC       induce cell death of certain tumor cell lines. It is potent
CC       pyrogen causing fever by direct action or by stimulation of
CC       interleukin 1 secretion and is implicated in the induction of
CC       cachexia, Under certain conditions it can stimulate cell
CC       proliferation and induce cell differentiation.
CC   -!- SUBUNIT: Homotrimer (By similarity).
CC   -!- SUBCELLULAR LOCATION: Type II membrane protein. Also exists as an
CC       extracellular soluble form (By similarity).
CC   -!- PTM: The soluble form derives from the membrane form by
CC       proteolytic processing (By similarity).
CC   -!- PTM: The membrane form, but not the soluble form, is
CC       phosphorylated on serine residues. Dephosphorylation of the
CC       membrane form occurs by binding to soluble TNFRSF1A/TNFR1 (By
CC       similarity).
CC   -!- SIMILARITY: Belongs to the tumor necrosis factor family.
CC   ---------------------------------------------------------------------
CC   This Swiss-Prot entry is copyright. It is produced through a collaboration
CC   between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC   the European Bioinformatics Institute. There are no restrictions on its
CC   use as long as its content is in no way modified and this statement is not
CC   removed.
CC   ---------------------------------------------------------------------
DR   EMBL; AB000513; BAA19131.1; -; mRNA.
DR   HSSP; P01375; 4TSV.
DR   SMR; P79337; 82-233.
DR   InterPro; IPR006053; TNF_abc.
DR   InterPro; IPR002959; TNF_alpha.
DR   InterPro; IPR006052; TNF_family.
DR   InterPro; IPR003636; TNF_subf.
```

```
DR   PANTHER; PTHR11471:SF4; TNF_alpha; 1.
DR   Pfam; PF00229; TNF; 1.
DR   PRINTS; PR01234; TNECROSISFCT.
DR   PRINTS; PR01235; TNFALPHA.
DR   ProDom; PD002012; TNF_subf; 1.
DR   SMART; SM00207; TNF; 1.
DR   PROSITE; PS00251; TNF_1; 1.
DR   PROSITE; PS50049; TNF_2; 1.
KW   Cytokine; Phosphorylation; Signal-anchor; Transmembrane.
FT   CHAIN         1    233       Tumor necrosis factor, membrane form.
FT   CHAIN        77    233       Tumor necrosis factor, soluble form.
FT   TOPO_DOM      1     35       Cytoplasmic (Potential).
FT   TRANSMEM     36     56       Signal-anchor for type II membrane
FT                                protein (Potential).
FT   TOPO_DOM     57    233       Extracellular (Potential).
FT   SITE         76     77       Cleavage (by ADAM17) (By similarity).
FT   MOD_RES       2      2       Phosphoserine (by CK1) (By similarity).
FT   DISULFID    145    177       By similarity.
SQ   SEQUENCE   233 AA;  25558 MW;  6ABF2C3AB132C217 CRC64;

  Query Match             93.8%;  Score 756;  DB 1;  Length 233;
  Best Local Similarity   93.6%;  Pred. No. 7.4e-69;
  Matches  147;  Conservative    2;  Mismatches    8;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| |||||||||||||||||||||||||:|||||| ||||||||||||||||
Db         77 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALVANGVELTDNQLVVPSEGLYLIYS 136

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| |||||| |||||||||||||||||:||||||| |||||||||||| ||||||||
Db        137 QVLFKGQGCPSNHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 196

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||| ||||||||||||||||||||
Db        197 GGVFQLEKGDRLSAEINLPDYLDFAESGQVYFGIIAL 233


RESULT 7
TNFA_PAPHU
ID   TNFA_PAPHU     STANDARD;      PRT;   233 AA.
AC   O77510;
DT   15-DEC-1998 (Rel. 37, Created)
DT   15-DEC-1998 (Rel. 37, Last sequence update)
DT   13-SEP-2005 (Rel. 48, Last annotation update)
DE   Tumor necrosis factor precursor (TNF-alpha) (Tumor necrosis factor
DE   ligand superfamily member 2) (TNF-a) (Cachectin) [Contains: Tumor
DE   necrosis factor, membrane form; Tumor necrosis factor, soluble form].
GN   Name=TNF; Synonyms=TNFA, TNFSF2;
OS   Papio hamadryas ursinus (Chacma baboon).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini;
OC   Cercopithecidae; Cercopithecinae; Papio.
OX   NCBI_TaxID=36229;
RN   [1]
RP   NUCLEOTIDE SEQUENCE [MRNA].
RX   MEDLINE=98147379; PubMed=9488055; DOI=10.1016/S0161-5890(97)00124-7;
RA   Haudek S.B., Redl H., Schlag G., Giroir B.P.;
RT   "Complementary DNA (cDNA) sequence of baboon tumor necrosis factor
RT   alpha.";
RL   Mol. Immunol. 34:1041-1042(1997).
CC   -!- FUNCTION: Cytokine that binds to TNFRSF1A/TNFR1 and
CC       TNFRSF1B/TNFBR. It is mainly secreted by macrophages and can
CC       induce cell death of certain tumor cell lines. It is potent
CC       pyrogen causing fever by direct action or by stimulation of
CC       interleukin 1 secretion and is implicated in the induction of
CC       cachexia, Under certain conditions it can stimulate cell
CC       proliferation and induce cell differentiation.
CC   -!- SUBUNIT: Homotrimer (By similarity).
CC   -!- SUBCELLULAR LOCATION: Type II membrane protein. Also exists as an
CC       extracellular soluble form (By similarity).
CC   -!- PTM: The soluble form derives from the membrane form by
CC       proteolytic processing (By similarity).
CC   -!- PTM: The membrane form, but not the soluble form, is
CC       phosphorylated on serine residues. Dephosphorylation of the
CC       membrane form occurs by binding to soluble TNFRSF1A/TNFR1 (By
CC       similarity).
CC   -!- SIMILARITY: Belongs to the tumor necrosis factor family.
CC   ---------------------------------------------------------------------
CC   This Swiss-Prot entry is copyright. It is produced through a collaboration
CC   between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC   the European Bioinformatics Institute. There are no restrictions on its
CC   use as long as its content is in no way modified and this statement is not
CC   removed.
CC   ---------------------------------------------------------------------
DR   EMBL; AF019963; AAC31675.1; -; mRNA.
DR   HSSP; P01375; 4TSV.
DR   SMR; O77510; 82-233.
DR   InterPro; IPR006053; TNF_abc.
DR   InterPro; IPR002959; TNF_alpha.
DR   InterPro; IPR006052; TNF_family.
DR   InterPro; IPR003636; TNF_subf.
DR   PANTHER; PTHR11471:SF4; TNF_alpha; 1.
DR   Pfam; PF00229; TNF; 1.
DR   PRINTS; PR01234; TNECROSISFCT.
DR   PRINTS; PR01235; TNFALPHA.
DR   ProDom; PD002012; TNF_subf; 1.
DR   SMART; SM00207; TNF; 1.
DR   PROSITE; PS00251; TNF_1; 1.
DR   PROSITE; PS50049; TNF_2; 1.
KW   Cytokine; Phosphorylation; Signal-anchor; Transmembrane.
FT   CHAIN         1    233       Tumor necrosis factor, membrane form.
FT   CHAIN        77    233       Tumor necrosis factor, soluble form.
FT   TOPO_DOM      1     35       Cytoplasmic (Potential).
FT   TRANSMEM     36     56       Signal-anchor for type II membrane
FT                                protein (Potential).
FT   TOPO_DOM     57    233       Extracellular (Potential).
FT   SITE         76     77       Cleavage (by ADAM17) (By similarity).
FT   MOD_RES       2      2       Phosphoserine (by CK1) (By similarity).
FT   DISULFID    145    177       By similarity.
SQ   SEQUENCE   233 AA;  25658 MW;  B9403255058D4A03 CRC64;

  Query Match             93.7%;  Score 755;  DB 1;  Length 233;
  Best Local Similarity   93.6%;  Pred. No. 9.4e-69;
  Matches  147;  Conservative    1;  Mismatches    9;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| || |||||||||||||||||||||||||| |||||||||||||||||
Db         77 VRSSSRTPSDKPVVHVVANPQAEGQLQWLNRRANALLANGVELTDNQLVVPSEGLYLIYS 136

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| |||||| |||||||||||||||||:||||||| |||||||||||| ||||||||
Db        137 QVLFKGQGCPSNHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 196

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||| ||||||||||||||||||||
Db        197 GGVFQLEKGDRLSAEINLPDYLDFAESGQVYFGIIAL 233


RESULT 8
TNFA_PAPAN
ID   TNFA_PAPAN     STANDARD;      PRT;   233 AA.
AC   P59695;
DT   10-OCT-2003 (Rel. 42, Created)
DT   10-OCT-2003 (Rel. 42, Last sequence update)
DT   13-SEP-2005 (Rel. 48, Last annotation update)
DE   Tumor necrosis factor precursor (TNF-alpha) (Tumor necrosis factor
DE   ligand superfamily member 2) (TNF-a) (Cachectin) [Contains: Tumor
DE   necrosis factor, membrane form; Tumor necrosis factor, soluble form].
GN   Name=TNF; Synonyms=TNFA, TNFSF2;
OS   Papio anubis (Olive baboon).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini;
OC   Cercopithecidae; Cercopithecinae; Papio.
OX   NCBI_TaxID=9555;
RN   [1]
RP   NUCLEOTIDE SEQUENCE.
```

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RX   MEDLINE=21383618; PubMed=11491535; DOI=10.1007/s002510100322;
RA   Villinger F.J., Bostik P., Mayne A.E., King C.L., Genain C.P.,
RA   Weiss W.R., Ansari A.A.;
RT   "Cloning, sequencing, and homology analysis of nonhuman primate
RT   Fas/Fas-ligand and co-stimulatory molecules.";
RL   Immunogenetics 53:315-328(2001).
CC   -!- FUNCTION: Cytokine that binds to TNFRSF1A/TNFR1 and
CC       TNFRSF1B/TNFBR. It is mainly secreted by macrophages and can
CC       induce cell death of certain tumor cell lines. It is potent
CC       pyrogen causing fever by direct action or by stimulation of
CC       interleukin 1 secretion and is implicated in the induction of
CC       cachexia, Under certain conditions it can stimulate cell
CC       proliferation and induce cell differentiation (By similarity).
CC   -!- SUBUNIT: Homotrimer (By similarity).
CC   -!- SUBCELLULAR LOCATION: Type II membrane protein. Also exists as an
CC       extracellular soluble form (By similarity).
CC   -!- PTM: The soluble form derives from the membrane form by
CC       proteolytic processing (By similarity).
CC   -!- PTM: The membrane form, but not the soluble form, is
CC       phosphorylated on serine residues. Dephosphorylation of the
CC       membrane form occurs by binding to soluble TNFRSF1A/TNFR1 (By
CC       similarity).
CC   -!- SIMILARITY: Belongs to the tumor necrosis factor family.
CC   ---------------------------------------------------------------------
CC   This Swiss-Prot entry is copyright. It is produced through a collaboration
CC   between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC   the European Bioinformatics Institute. There are no restrictions on its
CC   use as long as its content is in no way modified and this statement is not
CC   removed.
CC   ---------------------------------------------------------------------
DR   EMBL; AY234222; AAO85335.1; -; mRNA.
DR   HSSP; P01375; 4TSV.
DR   SMR; P59695; 82-233.
DR   InterPro; IPR006053; TNF_abc.
DR   InterPro; IPR002959; TNF_alpha.
DR   InterPro; IPR006052; TNF_family.
DR   InterPro; IPR003636; TNF_subf.
DR   PANTHER; PTHR11471:SF4; TNF_alpha; 1.
DR   Pfam; PF00229; TNF; 1.
DR   PRINTS; PR01234; TNECROSISFCT.
DR   PRINTS; PR01235; TNFALPHA.
DR   ProDom; PD002012; TNF_subf; 1.
DR   SMART; SM00207; TNF; 1.
DR   PROSITE; PS00251; TNF_1; 1.
DR   PROSITE; PS50049; TNF_2; 1.
KW   Cytokine; Phosphorylation; Signal-anchor; Transmembrane.
FT   CHAIN         1    233       Tumor necrosis factor, membrane form (By
FT                                similarity).
FT   CHAIN        77    233       Tumor necrosis factor, soluble form (By
FT                                similarity).
FT   TOPO_DOM      1     34       Cytoplasmic (Potential).
FT   TRANSMEM     35     57       Signal-anchor for type II membrane
FT                                protein (By similarity).
FT   TOPO_DOM     58    233       Extracellular (Potential).
FT   SITE         76     77       Cleavage (by ADAM17) (By similarity).
FT   MOD_RES       2      2       Phosphoserine (by CK1) (By similarity).
FT   DISULFID    145    177       By similarity.
SQ   SEQUENCE   233 AA;  25736 MW;  0C477F9EB6CC9909 CRC64;

  Query Match             93.3%;  Score 752;  DB 1;  Length 233;
  Best Local Similarity   93.6%;  Pred. No. 1.9e-68;
  Matches  147;  Conservative    1;  Mismatches    9;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| |||||||||||||||||||||||||||||  ||||||||||||||||||
Db         77 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVEPTDNQLVVPSEGLYLIYS.136

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| |||||| |||||||||||||||:||||||| |||||||||||| ||||||||
Db        137 QVLFKGQGCPSNHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 196

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||| ||||||||||||||||||||
Db        197 GGVFQLEKGDRLSAEINLPDYLDFAESGQVYFGIIAL 233


RESULT 9
O97543_AOTNA
ID   O97543_AOTNA PRELIMINARY;      PRT;   149 AA.
AC   O97543;
DT   01-MAY-1999 (TrEMBLrel. 10, Created)
DT   01-MAY-1999 (TrEMBLrel. 10, Last sequence update)
DT   01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
DE   Tumor necrosis factor alpha (Fragment).
GN   Name=TNF-alpha;
OS   Aotus nancymaae (Ma's night monkey).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Euarchontoglires; Primates; Platyrrhini; Cebidae;
OC   Aotinae; Aotus.
OX   NCBI_TaxID=37293;
RN   [1]
RP   NUCLEOTIDE SEQUENCE.
RX   MEDLINE=22354194; PubMed=12466897; DOI=10.1007/s00251-002-0512-2;
RA   Hernandez E.C., Suarez C.F., Mendez J.A., Echeverry S.J.,
RA   Murillo L.A., Patarroyo M.E.;
RT   "Identification, cloning, and sequencing of different cytokine genes
RT   in four species of owl monkey.";
RL   Immunogenetics 54:645-653(2002).
DR   EMBL; AF014513; AAD01539.1; -; mRNA.
DR   HSSP; P01375; 4TSV.
DR   SMR; O97543; 1-149.
DR   GO; GO:0016020; C:membrane; IEA.
DR   GO; GO:0005164; F:tumor necrosis factor receptor binding; IEA.
DR   GO; GO:0006955; P:immune response; IEA.
DR   InterPro; IPR006053; TNF_abc.
DR   InterPro; IPR002959; TNF_alpha.
DR   InterPro; IPR006052; TNF_family.
DR   InterPro; IPR003636; TNF_subf.
DR   Pfam; PF00229; TNF; 1.
DR   PRINTS; PR01234; TNECROSISFCT.
DR   PRINTS; PR01235; TNFALPHA.
DR   ProDom; PD002012; TNF_subf; 1.
DR   SMART; SM00207; TNF; 1.
DR   PROSITE; PS00251; TNF_1; 1.
DR   PROSITE; PS50049; TNF_2; 1.
FT   NON_TER       1     1
FT   NON_TER     149   149
SQ   SEQUENCE   149 AA;  16466 MW;  3C2A6140778EFA8A CRC64;

  Query Match             92.1%;  Score 742;  DB 2;  Length 149;
  Best Local Similarity   96.0%;  Pred. No. 1.2e-67;
  Matches  143;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          8 PSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYSQVLFSGQ 67
              ||| |||||||||||||||||||||||||||||||||||||||||||||||||||| ||
Db          1 PSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYSQVLFKGQ 60

Qy         68 GCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYLGGVFQLE 127
              |||||||||||||||||||||:||||||| |||||||||||| ||||||||||||||
Db         61 GCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYLGGVFQLE 120

Qy        128 TGDRLSAEINRPDYLDFAESGQVYFGIIA 156
              ||||||||||||||||||||||||||||
Db        121 KGDRLSAEINRPDYLDFAESGQVYFGIIA 149


RESULT 10
TNFA_CANFA
ID   TNFA_CANFA     STANDARD;      PRT;   233 AA.
AC   P51742; Q28339;
DT   01-OCT-1996 (Rel. 34, Created)
DT   01-OCT-1996 (Rel. 34, Last sequence update)
DT   13-SEP-2005 (Rel. 48, Last annotation update)
DE   Tumor necrosis factor precursor (TNF-alpha) (Tumor necrosis factor
DE   ligand superfamily member 2) (TNF-a) (Cachectin) [Contains: Tumor
DE   necrosis factor, membrane form; Tumor necrosis factor, soluble form].
```

```
GN   Name=TNF; Synonyms=TNFA, TNFSF2;
OS   Canis familiaris (Dog).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Laurasiatheria; Carnivora; Fissipedia; Canidae;
OC   Canis.
OX   NCBI_TaxID=9615;
RN   [1]
RP   NUCLEOTIDE SEQUENCE [GENOMIC DNA].
RA   Fiers W.;
RT   "Tumour necrosis factor.";
RL   (In) Sim E. (eds.);
RL   The natural immune system humoral factors, pp.65-119, IRL Press,
RL   Oxford (1993).
RN   [2]
RP   NUCLEOTIDE SEQUENCE [MRNA].
RA   Zucker K., Lu P., Fuller L., Asthana D., Esquenazi V., Miller J.;
RT   "Cloning and expression of the cDNA for canine tumor necrosis factor-
RT   alpha in E. coli.";
RL   Lymphokine Res. 13:191-196(1994).
RN   [3]
RP   NUCLEOTIDE SEQUENCE [GENOMIC DNA].
RA   Wagner J.L., Palti Y., DiDario D.D.;
RT   "Genomic map of a portion of the canine MHC class I histocompatibility
RT   complex.";
RL   Submitted (SEP-2003) to the EMBL/GenBank/DDBJ databases.
RN   [4]
RP   NUCLEOTIDE SEQUENCE [MRNA] OF 74-205.
RC   STRAIN=Beagle; TISSUE=Blood;
RA   Gilmore W.H., Carter S.D., Bennett M., Barnes A., Kelly D.F.;
RT   "Expression of canine TNF, IL-1 and IL-6 mRNAs in peripheral blood
RT   monocytes and cell lines.";
RL   Submitted (MAR-1996) to the EMBL/GenBank/DDBJ databases.
CC   -!- FUNCTION: Cytokine that binds to TNFRSF1A/TNFR1 and
CC       TNFRSF1B/TNFBR. It is mainly secreted by macrophages and can
CC       induce cell death of certain tumor cell lines. It is potent
CC       pyrogen causing fever by direct action or by stimulation of
CC       interleukin 1 secretion and is implicated in the induction of
CC       cachexia, Under certain conditions it can stimulate cell
CC       proliferation and induce cell differentiation.
CC   -!- SUBUNIT: Homotrimer (By similarity).
CC   -!- SUBCELLULAR LOCATION: Type II membrane protein. Also exists as an
CC       extracellular soluble form (By similarity).
CC   -!- PTM: The soluble form derives from the membrane form by
CC       proteolytic processing (By similarity).
CC   -!- PTM: The membrane form, but not the soluble form, is
CC       phosphorylated on serine residues. Dephosphorylation of the
CC       membrane form occurs by binding to soluble TNFRSF1A/TNFR1 (By
CC       similarity).
CC   -!- SIMILARITY: Belongs to the tumor necrosis factor family.
CC   ---------------------------------------------------------------------
CC   This Swiss-Prot entry is copyright. It is produced through a collaboration
CC   between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC   the European Bioinformatics Institute. There are no restrictions on its
CC   use as long as its content is in no way modified and this statement is not
CC   removed.
CC   ---------------------------------------------------------------------
DR   EMBL; X94932; CAA64403.1; -; Genomic_DNA.
DR   EMBL; S74068; AAB32391.1; -; mRNA.
DR   EMBL; AY423389; AAR27885.1; -; Genomic_DNA.
DR   EMBL; Z70046; CAA93908.1; -; mRNA.
DR   HSSP; P01375; 4TSV.
DR   SMR; P51742; 82-233.
DR   Ensembl; ENSCAFG00000000517; Canis familiaris.
DR   InterPro; IPR006053; TNF_abc.
DR   InterPro; IPR002959; TNF_alpha.
DR   InterPro; IPR006052; TNF_family.
DR   InterPro; IPR003636; TNF_subf.
DR   PANTHER; PTHR11471:SF4; TNF_alpha; 1.
DR   Pfam; PF00229; TNF; 1.
DR   PRINTS; PR01234; TNECROSISFCT.
DR   PRINTS; PR01235; TNFALPHA.
DR   ProDom; PD002012; TNF_subf; 1.
DR   SMART; SM00207; TNF; 1.
DR   PROSITE; PS00251; TNF_1; 1.
DR   PROSITE; PS50049; TNF_2; 1.
KW   Cytokine; Phosphorylation; Signal-anchor; Transmembrane.
FT   CHAIN        1    233       Tumor necrosis factor, membrane form.
FT   CHAIN       77    233       Tumor necrosis factor, soluble form.
FT   TOPO_DOM     1     35       Cytoplasmic (Potential).
FT   TRANSMEM    36     56       Signal-anchor for type II membrane
FT                               protein (Potential).
FT   TOPO_DOM    57    233       Extracellular (Potential).
FT   SITE        76     77       Cleavage (by ADAM17) (By similarity).
FT   MOD_RES      2      2       Phosphoserine (by CK1) (By similarity).
FT   DISULFID   145    177       By similarity.
FT   CONFLICT    59     60       QR -> PE (in Ref. 2).
FT   CONFLICT    66     66       G -> C (in Ref. 2).
FT   CONFLICT    74     74       A -> V (in Ref. 4).
FT   CONFLICT   111    111       A -> D (in Ref. 2).
FT   CONFLICT   116    116       G -> D (in Ref. 2).
FT   CONFLICT   134    135       IY -> DS (in Ref. 2).
SQ   SEQUENCE   233 AA;  25447 MW;  7B2588FBC8B25340 CRC64;

  Query Match             91.3%;  Score 736;  DB 1;  Length 233;
  Best Local Similarity   89.8%;  Pred. No. 8.3e-67;
  Matches  141;  Conservative    7;  Mismatches    9;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |:|||||||| |||||||||:||||||||:|||||||||||||| ||||:|||:|||||||
Db         77 VKSSSRTPSDKPVAHVVANPEAEGQLQWLSRRANALLANGVELTDNQLIVPSDGLYLIYS 136

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| |||||||||||||||| ||||||:||||||| |||||||||| || ||||||||
Db        137 QVLFKGQGCPSTHVLLTHTISRFAVSYQTKVNLLSAIKSPCQRETPEGTEAKPWYEPIYL 196

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||| |:||||||||||||||||||
Db        197 GGVFQLEKGDRLSAEINLPNYLDFAESGQVYFGIIAL 233


RESULT 11
TNFA_FELCA
ID   TNFA_FELCA     STANDARD;      PRT;   233 AA.
AC   P19101; Q8HYM0;
DT   01-NOV-1990 (Rel. 16, Created)
DT   10-OCT-2003 (Rel. 42, Last sequence update)
DT   13-SEP-2005 (Rel. 48, Last annotation update)
DE   Tumor necrosis factor precursor (TNF-alpha) (Tumor necrosis factor
DE   ligand superfamily member 2) (TNF-a) (Cachectin) [Contains: Tumor
DE   necrosis factor, membrane form; Tumor necrosis factor, soluble form].
GN   Name=TNF; Synonyms=TNFA, TNFSF2;
OS   Felis silvestris catus (Cat).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Laurasiatheria; Carnivora; Fissipedia; Felidae;
OC   Felinae; Felis.
OX   NCBI_TaxID=9685;
RN   [1]
RP   NUCLEOTIDE SEQUENCE.
RC   TISSUE=Blood;
RX   MEDLINE=91016860; PubMed=2216740;
RA   McGraw R.A., Coffee B.W., Otto C.M., Drews R.T., Rawlings C.A.;
RT   "Gene sequence of feline tumor necrosis factor alpha.";
RL   Nucleic Acids Res. 18:5563-5563(1990).
RN   [2]
RP   NUCLEOTIDE SEQUENCE [MRNA].
RC   TISSUE=Bone marrow;
RA   Daniel S.L., Brenner C.A., Legendre A.M., Soloman A., Rouse B.T.;
RT   "Feline cytokines TNF alpha and IL-1 beta: PCR cloning and sequencing
RT   of cDNA.";
RL   Anim. Biotechnol. 3:117-121(1992).
RN   [3]
RP   NUCLEOTIDE SEQUENCE OF 95-185.
RA   Susott E.E., Rollo W.A., Venta P.J., Ewart S.L.;
RT   "Characterization of 8 feline type I markers.";
RL   Submitted (DEC-2001) to the EMBL/GenBank/DDBJ databases.
CC   -!- FUNCTION: Cytokine that binds to TNFRSF1A/TNFR1 and
```

```
CC       TNFRSF1B/TNFBR. It is mainly secreted by macrophages and can
CC       induce cell death of certain tumor cell lines. It is potent
CC       pyrogen causing fever by direct action or by stimulation of
CC       interleukin 1 secretion and is implicated in the induction of
CC       cachexia, Under certain conditions it can stimulate cell
CC       proliferation and induce cell differentiation.
CC   -!- SUBUNIT: Homotrimer (By similarity).
CC   -!- SUBCELLULAR LOCATION: Type II membrane protein. Also exists as an
CC       extracellular soluble form (By similarity).
CC   -!- PTM: The soluble form derives from the membrane form by
CC       proteolytic processing (By similarity).
CC   -!- PTM: The membrane form, but not the soluble form, is
CC       phosphorylated on serine residues. Dephosphorylation of the
CC       membrane form occurs by binding to soluble TNFRSF1A/TNFR1 (By
CC       similarity).
CC   -!- SIMILARITY: Belongs to the tumor necrosis factor family.
CC   ---------------------------------------------------------------------
CC   This Swiss-Prot entry is copyright. It is produced through a collaboration
CC   between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC   the European Bioinformatics Institute. There are no restrictions on its
CC   use as long as its content is in no way modified and this statement is not
CC   removed.
CC   ---------------------------------------------------------------------
DR   EMBL; X54000; CAA37948.1; -; Genomic_DNA.
DR   EMBL; M92061; AAA30818.1; -; mRNA.
DR   EMBL; AF459810; AAO15590.1; -; Genomic_DNA.
DR   PIR; S11688; S11688.
DR   HSSP; P01375; 4TSV.
DR   SMR; P19101; 82-233.
DR   InterPro; IPR006053; TNF_abc.
DR   InterPro; IPR002959; TNF_alpha.
DR   InterPro; IPR006052; TNF_family.
DR   InterPro; IPR003636; TNF_subf.
DR   PANTHER; PTHR11471:SF4; TNF_alpha; 1.
DR   Pfam; PF00229; TNF; 1.
DR   PRINTS; PR01234; TNECROSISFCT.
DR   PRINTS; PR01235; TNFALPHA.
DR   ProDom; PD002012; TNF_subf; 1.
DR   SMART; SM00207; TNF; 1.
DR   PROSITE; PS00251; TNF_1; 1.
DR   PROSITE; PS50049; TNF_2; 1.
KW   Cytokine; Phosphorylation; Signal-anchor; Transmembrane.
FT   CHAIN         1    233       Tumor necrosis factor, membrane form.
FT   CHAIN        77    233       Tumor necrosis factor, soluble form.
FT   TOPO_DOM      1     35       Cytoplasmic (Potential).
FT   TRANSMEM     36     56       Signal-anchor for type II membrane
FT                                protein (Potential).
FT   TOPO_DOM     57    233       Extracellular (Potential).
FT   SITE         76     77       Cleavage (by ADAM17) (By similarity).
FT   MOD_RES       2      2       Phosphoserine (by CK1) (By similarity).
FT   DISULFID    145    177       By similarity.
FT   CONFLICT     28     28       G -> R (in Ref. 2).
FT   CONFLICT    104    104       W -> R (in Ref. 1).
FT   CONFLICT    141    141       T -> K (in Ref. 3).
FT   CONFLICT    151    151       L -> H (in Ref. 2).
FT   CONFLICT    155    155       T -> A (in Ref. 1).
FT   CONFLICT    210    210       T -> A (in Ref. 2).
SQ   SEQUENCE   233 AA;  25382 MW;  03E51823A7863510 CRC64;

  Query Match             90.4%;  Score 729;  DB 1;  Length 233;
  Best Local Similarity   89.8%;  Pred. No. 4.3e-66;
  Matches  141;  Conservative    6;  Mismatches   10;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              :|||||||| |||||||||:||||||||:|||||||||||||| |||| |||:|||||||
Db         77 LRSSSRTPSDKPVAHVVANPEAEGQLQWLSRRANALLANGVELTDNQLKVPSDGLYLIYS 136

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              ||||:||||||||||||||| ||||||:||||||| |||||||||||||| ||||||||
Db        137 QVLFTGQGCPSTHVLLTHTISRFAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 196

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||| ||| | ||||||||||||||||||
Db        197 GGVFQLEKGDRLSTEINLPAYLDFAESGQVYFGIIAL 233


RESULT 12
TNFA_SAISC
ID   TNFA_SAISC     STANDARD;      PRT;   233 AA.
AC   Q8MKG8;
DT   10-OCT-2003 (Rel. 42, Created)
DT   10-OCT-2003 (Rel. 42, Last sequence update)
DT   13-SEP-2005 (Rel. 48, Last annotation update)
DE   Tumor necrosis factor precursor (TNF-alpha) (Tumor necrosis factor
DE   ligand superfamily member 2) (TNF-a) (Cachectin) [Contains: Tumor
DE   necrosis factor, membrane form; Tumor necrosis factor, soluble form].
GN   Name=TNF; Synonyms=TNFA, TNFSF2;
OS   Saimiri sciureus (Common squirrel monkey).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Euarchontoglires; Primates; Platyrrhini; Cebidae;
OC   Cebinae; Saimiri.
OX   NCBI_TaxID=9521;
RN   [1]
RP   NUCLEOTIDE SEQUENCE.
RX   MEDLINE=21972723; PubMed=11976788; DOI=10.1007/s00251-002-0443-y;
RA   Heraud J.M., Lavergne A., Kazanji M.;
RT   "Molecular cloning, characterization, and quantification of squirrel
RT   monkey (Saimiri sciureus) Th1 and Th2 cytokines.";
RL   Immunogenetics 54:20-29(2002).
RN   [2]
RP   NUCLEOTIDE SEQUENCE.
RX   MEDLINE=22516846; PubMed=12628762; DOI=10.1016/S0165-2427(03)00018-7;
RA   Merien F., Lavergne A., Behr C., Contamin H.;
RT   "Sequencing and analysis of genomic DNA and cDNA encoding TNF-alpha in
RT   the squirrel monkey (Saimiri sciureus).";
RL   Vet. Immunol. Immunopathol. 92:37-43(2003).
CC   -!- FUNCTION: Cytokine that binds to TNFRSF1A/TNFR1 and
CC       TNFRSF1B/TNFBR. It is mainly secreted by macrophages and can
CC       induce cell death of certain tumor cell lines. It is potent
CC       pyrogen causing fever by direct action or by stimulation of
CC       interleukin 1 secretion and is implicated in the induction of
CC       cachexia, Under certain conditions it can stimulate cell
CC       proliferation and induce cell differentiation (By similarity).
CC   -!- SUBUNIT: Homotrimer (By similarity).
CC   -!- SUBCELLULAR LOCATION: Type II membrane protein. Also exists as an
CC       extracellular soluble form (By similarity).
CC   -!- PTM: The soluble form derives from the membrane form by
CC       proteolytic processing (By similarity).
CC   -!- PTM: The membrane form, but not the soluble form, is
CC       phosphorylated on serine residues. Dephosphorylation of the
CC       membrane form occurs by binding to soluble TNFRSF1A/TNFR1 (By
CC       similarity).
CC   -!- SIMILARITY: Belongs to the tumor necrosis factor family.
CC   ---------------------------------------------------------------------
CC   This Swiss-Prot entry is copyright. It is produced through a collaboration
CC   between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC   the European Bioinformatics Institute. There are no restrictions on its
CC   use as long as its content is in no way modified and this statement is not
CC   removed.
CC   ---------------------------------------------------------------------
DR   EMBL; AF294760; AAK92047.1; -; mRNA.
DR   EMBL; AJ437697; CAD27179.1; -; Genomic_DNA.
DR   EMBL; AJ437698; CAD27180.1; -; mRNA.
DR   HSSP; P01375; 4TSV.
DR   SMR; Q8MKG8; 82-233.
DR   InterPro; IPR006053; TNF_abc.
DR   InterPro; IPR002959; TNF_alpha.
DR   InterPro; IPR006052; TNF_family.
DR   InterPro; IPR003636; TNF_subf.
DR   PANTHER; PTHR11471:SF4; TNF_alpha; 1.
DR   Pfam; PF00229; TNF; 1.
DR   PRINTS; PR01234; TNECROSISFCT.
DR   PRINTS; PR01235; TNFALPHA.
DR   ProDom; PD002012; TNF_subf; 1.
DR   SMART; SM00207; TNF; 1.
DR   PROSITE; PS00251; TNF_1; 1.
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DR   PROSITE; PS50049; TNF_2; 1.
KW   Cytokine; Phosphorylation; Signal-anchor; Transmembrane.
FT   CHAIN         1    233       Tumor necrosis factor, membrane form (By
FT                                similarity).
FT   CHAIN        77    233       Tumor necrosis factor, soluble form (By
FT                                similarity).
FT   TOPO_DOM      1     32       Cytoplasmic (Potential).
FT   TRANSMEM     33     55       Signal-anchor for type II membrane
FT                                protein (By similarity).
FT   TOPO_DOM     56    233       Extracellular (Potential).
FT   SITE         76     77       Cleavage (by ADAM17) (By similarity).
FT   MOD_RES       2      2       Phosphoserine (by CK1) (By similarity).
FT   DISULFID    145    177       By similarity.
SQ   SEQUENCE   233 AA;  25578 MW;  197FB066F744FCAD CRC64;

  Query Match             87.3%;  Score 704;  DB 1;  Length 233;
  Best Local Similarity   87.3%;  Pred. No. 1.6e-63;
  Matches  137;  Conservative    6;  Mismatches   14;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              ||||||| ||| ||||||||||||||||||||||||||||||||||||:||||:||
Db         77 VRSSSRIPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSDGLYLVYS 136

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| |||||||  ||||:|||||||| :|||||| |||||||| ||:  ||||||||
Db        137 QVLFKGQGCPSTFTLLTHSISRIAVSYQAKVNLLSAIKSPCQRETPRGAKTHPWYEPIYL 196

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||: || || ||||||||||||
Db        197 GGVFQLEKGDRLSAEISPPDSLDLAESGQVYFGIIAL 233


RESULT 13
TNFA_HORSE
ID   TNFA_HORSE     STANDARD;      PRT;   234 AA.
AC   P29553; Q9TTJ3;
DT   01-APR-1993 (Rel. 25, Created)
DT   01-APR-1993 (Rel. 25, Last sequence update)
DT   13-SEP-2005 (Rel. 48, Last annotation update)
DE   Tumor necrosis factor precursor (TNF-alpha) (Tumor necrosis factor
DE   ligand superfamily member 2) (TNF-a) (Cachectin) [Contains: Tumor
DE   necrosis factor, membrane form; Tumor necrosis factor, soluble form].
GN   Name=TNF; Synonyms=TNFA, TNFSF2;
OS   Equus caballus (Horse).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Laurasiatheria; Perissodactyla; Equidae; Equus.
OX   NCBI_TaxID=9796;
RN   [1]
RP   NUCLEOTIDE SEQUENCE.
RX   MEDLINE=92084125; PubMed=1748301; DOI=10.1016/0378-1119(91)90333-7;
RA   Su X., Morris D.D., McGraw R.A.;
RT   "Cloning and characterization of gene TNF alpha encoding equine tumor
RT   necrosis factor alpha.";
RL   Gene 107:319-321(1991).
RN   [2]
RP   NUCLEOTIDE SEQUENCE.
RC   STRAIN=Thoroughbred; TISSUE=Artery;
RA   Ishida N., Sato F., Hasegawa T.;
RT   "Molecular cloning of equine tumor necrosis factor-alpha mRNA.";
RL   Submitted (DEC-1999) to the EMBL/GenBank/DDBJ databases.
CC   -!- FUNCTION: Cytokine that binds to TNFRSF1A/TNFR1 and
CC       TNFRSF1B/TNFBR. It is mainly secreted by macrophages and can
CC       induce cell death of certain tumor cell lines. It is potent
CC       pyrogen causing fever by direct action or by stimulation of
CC       interleukin 1 secretion and is implicated in the induction of
CC       cachexia, Under certain conditions it can stimulate cell
CC       proliferation and induce cell differentiation.
CC   -!- SUBUNIT: Homotrimer (By similarity).
CC   -!- SUBCELLULAR LOCATION: Type II membrane protein. Also exists as an
CC       extracellular soluble form (By similarity).
CC   -!- PTM: The soluble form derives from the membrane form by
CC       proteolytic processing (By similarity).
CC   -!- PTM: The membrane form, but not the soluble form, is
CC       phosphorylated on serine residues. Dephosphorylation of the
CC       membrane form occurs by binding to soluble TNFRSF1A/TNFR1 (By
CC       similarity).
CC   -!- SIMILARITY: Belongs to the tumor necrosis factor family.
CC   ---------------------------------------------------------------------
CC   This Swiss-Prot entry is copyright. It is produced through a collaboration
CC   between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC   the European Bioinformatics Institute. There are no restrictions on its
CC   use as long as its content is in no way modified and this statement is not
CC   removed.
CC   ---------------------------------------------------------------------
DR   EMBL; M64087; AAA30959.1; -; Genomic_DNA.
DR   EMBL; AB035735; BAA88349.1; -; mRNA.
DR   PIR; JQ1344; JQ1344.
DR   HSSP; P01375; 1A8M.
DR   SMR; P29553; 83-234.
DR   InterPro; IPR006053; TNF_abc.
DR   InterPro; IPR002959; TNF_alpha.
DR   InterPro; IPR006052; TNF_family.
DR   InterPro; IPR003636; TNF_subf.
DR   PANTHER; PTHR11471:SF4; TNF_alpha; 1.
DR   Pfam; PF00229; TNF; 1.
DR   PRINTS; PR01234; TNECROSISFCT.
DR   PRINTS; PR01235; TNFALPHA.
DR   ProDom; PD002012; TNF_subf; 1.
DR   SMART; SM00207; TNF; 1.
DR   PROSITE; PS00251; TNF_1; 1.
DR   PROSITE; PS50049; TNF_2; 1.
KW   Cytokine; Phosphorylation; Signal-anchor; Transmembrane.
FT   CHAIN         1    234       Tumor necrosis factor, membrane form.
FT   CHAIN        78    234       Tumor necrosis factor, soluble form.
FT   TOPO_DOM      1     35       Cytoplasmic (Potential).
FT   TRANSMEM     36     56       Signal-anchor for type II membrane
FT                                protein (Potential).
FT   TOPO_DOM     57    234       Extracellular (Potential).
FT   SITE         77     78       Cleavage (by ADAM17) (By similarity).
FT   MOD_RES       2      2       Phosphoserine (by CK1) (By similarity).
FT   DISULFID    146    178       By similarity.
FT   CONFLICT    177    179       PCH -> LAN (in Ref. 2).
SQ   SEQUENCE   234 AA;  25469 MW;  E79ACE91143DF373 CRC64;

  Query Match             86.2%;  Score 695;  DB 1;  Length 234;
  Best Local Similarity   85.4%;  Pred. No. 1.3e-62;
  Matches  134;  Conservative   11;  Mismatches   12;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              :|||||||| ||||||||||||||||: |||||||||:| ||||||| :|||||||
Db         78 LRSSSRTPSDKPVAHVVANPQAEGQLQWLSGRANALLANGVKLTDNQLVVPLDGLYLIYS 137

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| ||||||||||||||:|||| ::||||||| |||  |:|| ||| ||||||||
Db        138 QVLFKGQGCPSTHVLLTHTISRLAVSYPSKVNLLSAIKSPCHTESPEQAEAKPWYEPIYL 197

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||:||||||:|:||||||||||||||||
Db        198 GGVFQLEKGDQLSAEINQPNYLDFAESGQVYFGIIAL 234


RESULT 14
O97538_AOTVO
ID   O97538_AOTVO PRELIMINARY;      PRT;   149 AA.
AC   O97538;
DT   01-MAY-1999 (TrEMBLrel. 10, Created)
DT   01-MAY-1999 (TrEMBLrel. 10, Last sequence update)
DT   01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
DE   Tumor necrosis factor alpha (Fragment).
GN   Name=TNF-alpha;
OS   Aotus vociferans (Spix's owl monkey).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Euarchontoglires; Primates; Platyrrhini; Cebidae;
OC   Aotinae; Aotus.
OX   NCBI_TaxID=57176;
RN   [1]
```

```
RP   NUCLEOTIDE SEQUENCE.
RX   MEDLINE=22354194; PubMed=12466897; DOI=10.1007/s00251-002-0512-2;
RA   Hernandez E.C., Suarez C.F., Mendez J.A., Echeverry S.J.,
RA   Murillo L.A., Patarroyo M.E.;
RT   "Identification, cloning, and sequencing of different cytokine genes
RT   in four species of owl monkey.";
RL   Immunogenetics 54:645-653(2002).
DR   EMBL; AF014508; AAD01534.1; -; mRNA.
DR   HSSP; P01375; 4TSV.
DR   SMR; O97538; 1-149.
DR   GO; GO:0016020; C:membrane; IEA.
DR   GO; GO:0005164; F:tumor necrosis factor receptor binding; IEA.
DR   GO; GO:0006955; P:immune response; IEA.
DR   InterPro; IPR006053; TNF_abc.
DR   InterPro; IPR002959; TNF_alpha.
DR   InterPro; IPR006052; TNF_family.
DR   InterPro; IPR003636; TNF_subf.
DR   Pfam; PF00229; TNF; 1.
DR   PRINTS; PR01234; TNECROSISFCT.
DR   PRINTS; PR01235; TNFALPHA.
DR   ProDom; PD002012; TNF_subf; 1.
DR   SMART; SM00207; TNF; 1.
DR   PROSITE; PS00251; TNF_1; 1.
DR   PROSITE; PS50049; TNF_2; 1.
FT   NON_TER       1      1
FT   NON_TER     149    149
SQ   SEQUENCE   149 AA;  16415 MW;  86F1B9BCED16E689 CRC64;

  Query Match             86.0%;  Score 693;  DB 2;  Length 149;
  Best Local Similarity   89.3%;  Pred. No. 1.2e-62;
  Matches  133;  Conservative    5;  Mismatches   11;  Indels    0;  Gaps    0;

Qy          8 PSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYSQVLFSGQ 67
              ||| |||||||||||||||||||||||||||||||||||||||||||||:|||||| ||
Db          1 PSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLVYSQVLFKGQ 60

Qy         68 GCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYLGGVFQLE 127
              ||||| :||||:||||||||| :||||||| |||||||| ||:  ||||||||||||||
Db         61 GCPSTFMLLTHSISRIAVSYQAKVNLLSAIKSPCQRETPRGAKTNPWYEPIYLGGVFQLE 120

Qy        128 TGDRLSAEINRPDYLDFAESGQVYFGIIA 156
               ||||||||| ||||| ||||||||||||
Db        121 KGDRLSAEINLPDYLDLAESGQVYFGIIA 149


RESULT 15
Q9TTG8_AOTNI
ID   Q9TTG8_AOTNI PRELIMINARY;      PRT;   149 AA.
AC   Q9TTG8;
DT   01-MAY-2000 (TrEMBLrel. 13, Created)
DT   01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
DT   01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
DE   Tumor necrosis factor alpha (Fragment).
GN   Name=TNF-alpha;
OS   Aotus nigriceps (Black-headed owl monkey).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Euarchontoglires; Primates; Platyrrhini; Cebidae;
OC   Aotinae; Aotus.
OX   NCBI_TaxID=57175;
RN   [1]
RP   NUCLEOTIDE SEQUENCE.
RX   MEDLINE=22354194; PubMed=12466897; DOI=10.1007/s00251-002-0512-2;
RA   Hernandez E.C., Suarez C.F., Mendez J.A., Echeverry S.J.,
RA   Murillo L.A., Patarroyo M.E.;
RT   "Identification, cloning, and sequencing of different cytokine genes
RT   in four species of owl monkey.";
RL   Immunogenetics 54:645-653(2002).
DR   EMBL; AF097328; AAF21303.1; -; mRNA.
DR   HSSP; P01375; 4TSV.
DR   SMR; Q9TTG8; 1-149.
DR   GO; GO:0016020; C:membrane; IEA.
DR   GO; GO:0005164; F:tumor necrosis factor receptor binding; IEA.
DR   GO; GO:0006955; P:immune response; IEA.
DR   InterPro; IPR006053; TNF_abc.
DR   InterPro; IPR002959; TNF_alpha.
DR   InterPro; IPR006052; TNF_family.
DR   InterPro; IPR003636; TNF_subf.
DR   Pfam; PF00229; TNF; 1.
DR   PRINTS; PR01234; TNECROSISFCT.
DR   PRINTS; PR01235; TNFALPHA.
DR   ProDom; PD002012; TNF_subf; 1.
DR   PROSITE; PS00251; TNF_1; 1.
DR   PROSITE; PS50049; TNF_2; 1.
FT   NON_TER       1      1
FT   NON_TER     149    149
SQ   SEQUENCE   149 AA;  16415 MW;  86F1B9BCED16E689 CRC64;

  Query Match             86.0%;  Score 693;  DB 2;  Length 149;
  Best Local Similarity   89.3%;  Pred. No. 1.2e-62;
  Matches  133;  Conservative    5;  Mismatches   11;  Indels    0;  Gaps    0;

Qy          8 PSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYSQVLFSGQ 67
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Db          1 PSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLVYSQVLFKGQ 60

Qy         68 GCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYLGGVFQLE 127
              ||||| :||||:||||||||| :||||||| |||||||| ||:  ||||||||||||||
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Qy        128 TGDRLSAEINRPDYLDFAESGQVYFGIIA 156
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Db        121 KGDRLSAEINLPDYLDLAESGQVYFGIIA 149


Search completed: May  5, 2006, 11:26:01
Job time : 53.5 secs
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GenCore version 5.1.7

OM protein - protein search, using sw model

Run on: May 5, 2006, 11:22:28 ; Search time 15.25 Seconds
(without alignments)
851.153 Million cell updates/sec

Title: US-10-668-178-15
Perfect score: 806
Sequence: 1 VRSSSRTPSDAPVAHVVANP.....RPDYLDFAESGQVYFGIIAL 157

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 572060 seqs, 82675679 residues

Total number of hits satisfying chosen parameters: 572060

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : Issued_Patents_AA:*
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5: /cgn2_6/ptodata/1/iaa/RE_COMB.pep:*
6: /cgn2_6/ptodata/1/iaa/backfiles1.pep:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	777	96.4	157	1	US-07-794-400-1	Sequence 1, Appli
2	777	96.4	157	1	US-08-041-648-2	Sequence 2, Appli
3	777	96.4	157	1	US-08-107-235-1	Sequence 1, Appli
4	777	96.4	157	1	US-08-217-529-2	Sequence 2, Appli
5	777	96.4	157	1	US-08-318-193-86	Sequence 86, Appl
6	777	96.4	157	1	US-08-397-470-1	Sequence 1, Appli
7	777	96.4	157	1	US-08-192-102-1	Sequence 1, Appli
8	777	96.4	157	1	US-08-324-799-1	Sequence 1, Appli
9	777	96.4	157	1	US-08-538-875-1	Sequence 1, Appli
10	777	96.4	157	1	US-08-394-600B-17	Sequence 17, Appl
11	777	96.4	157	1	US-08-500-860A-35	Sequence 35, Appl
12	777	96.4	157	1	US-08-192-861A-1	Sequence 1, Appli
13	777	96.4	157	1	US-08-600-783-5	Sequence 5, Appli
14	777	96.4	157	2	US-08-584-031-13	Sequence 13, Appl
15	777	96.4	157	2	US-08-714-960B-1	Sequence 1, Appli
16	777	96.4	157	2	US-09-133-119-1	Sequence 1, Appli
17	777	96.4	157	2	US-08-192-093A-1	Sequence 1, Appli
18	777	96.4	157	2	US-09-598-784-1	Sequence 1, Appli
19	777	96.4	157	2	US-09-496-118B-7	Sequence 7, Appli
20	777	96.4	157	2	US-08-395-456C-17	Sequence 17, Appl
21	777	96.4	157	2	US-08-487-453A-17	Sequence 17, Appl
22	777	96.4	157	2	US-09-582-450-13	Sequence 13, Appl
23	777	96.4	157	2	US-09-934-465-13	Sequence 13, Appl
24	777	96.4	157	2	US-09-756-301B-1	Sequence 1, Appli
25	777	96.4	157	2	US-09-756-398B-1	Sequence 1, Appli
26	777	96.4	157	4	PCT-US92-02190-1	Sequence 1, Appli
27	777	96.4	157	4	PCT-US93-02475-1	Sequence 1, Appli
28	777	96.4	157	4	PCT-US95-02513-17	Sequence 17, Appl
29	777	96.4	157	6	5180811-1	Patent No. 5180811
30	777	96.4	158	2	US-09-645-415A-4	Sequence 4, Appli
31	777	96.4	177	1	US-08-394-600B-21	Sequence 21, Appl
32	777	96.4	177	2	US-08-395-456C-21	Sequence 21, Appl
33	777	96.4	177	2	US-08-487-453A-21	Sequence 21, Appl
34	777	96.4	177	4	PCT-US95-02513-21	Sequence 21, Appl
35	777	96.4	180	2	US-09-645-415A-8	Sequence 8, Appli
36	777	96.4	193	1	US-08-889-909A-3	Sequence 3, Appli
37	777	96.4	193	2	US-09-156-163A-3	Sequence 3, Appli
38	777	96.4	193	2	US-09-982-308B-3	Sequence 3, Appli
39	777	96.4	233	1	US-08-323-445A-10	Sequence 10, Appl
40	777	96.4	233	1	US-08-515-903A-10	Sequence 10, Appl
41	777	96.4	233	1	US-08-912-227-3	Sequence 3, Appli
42	777	96.4	233	1	US-08-230-428B-2	Sequence 2, Appli
43	777	96.4	233	2	US-08-883-086-6	Sequence 6, Appli
44	777	96.4	233	2	US-08-880-342-37	Sequence 37, Appl
45	777	96.4	233	2	US-09-589-287B-3	Sequence 3, Appli

ALIGNMENTS

RESULT 1
US-07-794-400-1
; Sequence 1, Application US/07794400
; Patent No. 5422104
; GENERAL INFORMATION:
; APPLICANT: Fiers, W.
; APPLICANT: Tavernier, J.
; APPLICANT: Van Ostade, X.
; TITLE OF INVENTION: TNF-Muteins
; NUMBER OF SEQUENCES: 24
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Hoffmann-La Roche Inc.
; STREET: 340 Kingsland Street
; CITY: Nutley
; STATE: New Jersey
; COUNTRY: USA
; ZIP: 07110
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.25
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/07/794,400
; FILING DATE: 19911120
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: EP 90810901.0
; FILING DATE: 21-NOV-1990
; ATTORNEY/AGENT INFORMATION:
; NAME: Krovatin, William
; REGISTRATION NUMBER: 33256
; REFERENCE/DOCKET NUMBER: 4105/136-00
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (201) 235-4387
; TELEFAX: (201) 235-3500
; INFORMATION FOR SEQ ID NO: 1:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 157 amino acids
; TYPE: AMINO ACID
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; ORIGINAL SOURCE:
; ORGANISM: Homo sapiens
; TISSUE TYPE: Blood
; CELL TYPE: Macrophage
US-07-794-400-1

Query Match 96.4%; Score 777; DB 1; Length 157;
Best Local Similarity 96.2%; Pred. No. 3.9e-74;

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  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
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Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
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Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
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Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 2
US-08-041-648-2
; Sequence 2, Application US/08041648
; Patent No. 5486463
;  GENERAL INFORMATION:
;    APPLICANT:  Lesslauer, Werner
;    APPLICANT:  L tscher, Hansruedi
;    APPLICANT:  St ber, Dietrich
;    TITLE OF INVENTION:  TNF-MUTEINS
;    NUMBER OF SEQUENCES:  17
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  George M. Gould, Esq., Hoffmann-La Roche Inc.
;      STREET:  340 Kingsland Street
;      CITY:  Nutley
;      STATE:  New Jersey
;      COUNTRY:  U.S.A.
;      ZIP:  07110-1199
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/041,648
;      FILING DATE:  1-APR-1993
;      CLASSIFICATION:  435
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  EP 92810249.0
;      FILING DATE:  2-APR-1992
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Roseman, Catherine R.
;      REGISTRATION NUMBER:  34240
;      REFERENCE/DOCKET NUMBER:  RAN 4105/147
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (201) 235-6208
;      TELEFAX:  (201) 235-3500
;  INFORMATION FOR SEQ ID NO:  2:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  157 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
US-08-041-648-2

  Query Match             96.4%;  Score 777;  DB 1;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 3.9e-74;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
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Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
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Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 3
US-08-107-235-1
; Sequence 1, Application US/08107235
; Patent No. 5587457
;  GENERAL INFORMATION:
;    APPLICANT:  Rathjen, Deborah A
;    APPLICANT:  Ferrante, Antonio
;    APPLICANT:  Widmer, Fred
;    TITLE OF INVENTION:  Neutrophil Stimulating Peptides
;    NUMBER OF SEQUENCES:  19
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Allegretti & Witcoff, Ltd.
;      STREET:  10 S. Wacker Dr.
;      CITY:  Chicago
;      STATE:  Illinois
;      COUNTRY:  USA
;      ZIP:  60606
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/107,235
;      FILING DATE:  16-AUG-1993
;      CLASSIFICATION:  530
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 07/930,415
;      FILING DATE:  12-MAR-1991
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  McDonnell, John J
;      REGISTRATION NUMBER:  26,949
;      REFERENCE/DOCKET NUMBER:  92,622A
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  312-715-1000
;      TELEFAX:  312-715-1234
;  INFORMATION FOR SEQ ID NO:  1:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  157 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
;    FEATURE:
;      NAME/KEY:  Peptide
;      LOCATION:  1..157
;      OTHER INFORMATION:  /note= "HUMAN TNF)"
US-08-107-235-1

  Query Match             96.4%;  Score 777;  DB 1;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 3.9e-74;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
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Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
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Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
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Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 4
US-08-217-529-2
; Sequence 2, Application US/08217529
; Patent No. 5597899
;  GENERAL INFORMATION:
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;    APPLICANT:  Banner, David
;    APPLICANT:  Lesslauer, Werner
;    APPLICANT:  Lotscher, Hansreudi
;    APPLICANT:  Stuber, Dietrich
;    TITLE OF INVENTION:  Tumor Necrosis Factor Muteins
;    NUMBER OF SEQUENCES:  7
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  George M. Gould, Esq., Hoffmann-La Roche Inc.
;      STREET:  340 Kingsland Street
;      CITY:  Nutley
;      STATE:  New Jersey
;      COUNTRY:  U.S.
;      ZIP:  07110
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/217,529
;      FILING DATE:  24-MAR-1994
;      CLASSIFICATION:  530
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  EP 93810224.1
;      FILING DATE:  29-MAR-1993
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Roseman, Catherine R
;      REGISTRATION NUMBER:  34240
;      REFERENCE/DOCKET NUMBER:  4105/155
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (201) 235-6208
;      TELEFAX:  (201) 235-3500
;  INFORMATION FOR SEQ ID NO:  2:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  157 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
US-08-217-529-2

  Query Match             96.4%;  Score 777;  DB 1;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 3.9e-74;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
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Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
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Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
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Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 5
US-08-318-193-86
; Sequence 86, Application US/08318193
; Patent No. 5641663
;  GENERAL INFORMATION:
;    APPLICANT:  GARVIN, Robert T.
;    APPLICANT:  MALEK, Lawrence T.
;    TITLE OF INVENTION:  AN EXPRESSION SYSTEM FOR THE SECRETION
;    TITLE OF INVENTION:  OF BIOACTIVE HUMAN GRANULOCYTE MACROPHAGE COLONY
;    TITLE OF INVENTION:  STIMULATING FACTOR (GM-CSF) AND OTHER HETEROLOGOUS
;    TITLE OF INVENTION:  PROTEINS FROM STREPTOMYCES
;    NUMBER OF SEQUENCES:  91
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Foley & Lardner
;      STREET:  1800 Diagonal Road, Suite 500
;      CITY:  Alexandria
;      STATE:  Virginia
;      COUNTRY:  USA
;      ZIP:  22313-0299
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/318,193
;      FILING DATE:
;      CLASSIFICATION:  435
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US/07/935,314
;      FILING DATE:
;      APPLICATION NUMBER:  US 07/224,568
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  BENT, Stephen A.
;      REGISTRATION NUMBER:  29,768
;      REFERENCE/DOCKET NUMBER:  18740/116 CACO
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (703)836-9300
;      TELEFAX:  (703)683-4109
;      TELEX:  899149
;  INFORMATION FOR SEQ ID NO:  86:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  157 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
US-08-318-193-86

  Query Match             96.4%;  Score 777;  DB 1;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 3.9e-74;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
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Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
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Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
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Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 6
US-08-397-470-1
; Sequence 1, Application US/08397470
; Patent No. 5652353
;  GENERAL INFORMATION:
;    APPLICANT:  Fiers, W.
;    APPLICANT:  Tavernier, J.
;    APPLICANT:  Van Ostade, X.
;    TITLE OF INVENTION:  TNF-Muteins
;    NUMBER OF SEQUENCES:  24
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Hoffmann-La Roche Inc.
;      STREET:  340 Kingsland Street
;      CITY:  Nutley
;      STATE:  New Jersey
;      COUNTRY:  USA
;      ZIP:  07110
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/397,470
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;      FILING DATE:  01-MAR-1995
;      CLASSIFICATION:  435
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 07/794,400
;      FILING DATE:  20-NOV-1991
;      APPLICATION NUMBER:  EP 90810901.0
;      FILING DATE:  21-NOV-1990
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Krovatin, William
;      REGISTRATION NUMBER:  33256
;      REFERENCE/DOCKET NUMBER:  4105/136-00
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (201) 235-4387
;      TELEFAX:  (201) 235-3500
;  INFORMATION FOR SEQ ID NO:  1:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  157 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
;    ORIGINAL SOURCE:
;      ORGANISM:  Homo sapiens
;      TISSUE TYPE:  Blood
;      CELL TYPE:  Macrophage
US-08-397-470-1

  Query Match             96.4%;  Score 777;  DB 1;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 3.9e-74;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
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Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
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Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
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Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 7
US-08-192-102-1
; Sequence 1, Application US/08192102
; Patent No. 5656272
;  GENERAL INFORMATION:
;    APPLICANT:  Le, Junming
;    APPLICANT:  Vilcek, Jan
;    APPLICANT:  Daddona, Peter E.
;    APPLICANT:  Ghrayeb, John
;    APPLICANT:  Knight, David M.
;    APPLICANT:  Siegel, Scott A.
;    TITLE OF INVENTION:  ANTI-TNF ANTIBODIES AND ASSAYS EMPLOYING
;    TITLE OF INVENTION:  ANTI-TNF ANTIBODIES
;    NUMBER OF SEQUENCES:  19
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Hamilton, Brook, Smith & Reynolds, P.C.
;      STREET:  Two Militia Drive
;      CITY:  Lexington
;      STATE:  Massachusetts
;      COUNTRY:  USA
;      ZIP:  02173
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/192,102
;      FILING DATE:  04-FEB-1994
;      CLASSIFICATION:  424
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/192,093
;      FILING DATE:  04-FEB-1994
;      APPLICATION NUMBER:  US 08/013,413
;      FILING DATE:  02-FEB-1993
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 08/010,406
;      FILING DATE:  29-JAN-1993
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 07/943,852
;      FILING DATE:  11-SEP-1992
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 07/853,606
;      FILING DATE:  18-MAR-1992
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 07/670,827
;      FILING DATE:  18-MAR-1991
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Brook, David E.
;      REGISTRATION NUMBER:  22,592
;      REFERENCE/DOCKET NUMBER:  NYU93-01M3
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (617) 861-6240
;      TELEFAX:  (617) 861-9540
;  INFORMATION FOR SEQ ID NO:  1:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  157 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  peptide
US-08-192-102-1

  Query Match             96.4%;  Score 777;  DB 1;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 3.9e-74;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| |||||||||||||||||||||:||||||| ||||||||||||| ||||||||
Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| |||||||||||||||||||||||||||||
Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 8
US-08-324-799-1
; Sequence 1, Application US/08324799
; Patent No. 5698195
;  GENERAL INFORMATION:
;    APPLICANT:  Le, Junming
;    APPLICANT:  Vilcek, Jan
;    APPLICANT:  Daddona, Peter E.
;    APPLICANT:  Ghrayeb, John
;    APPLICANT:  Knight, David M.
;    APPLICANT:  Siegel, Scott A.
;    TITLE OF INVENTION:  ANTI-TNF ANTIBODIES AND PEPTIDES
;    TITLE OF INVENTION:  OF HUMAN TUMOR NECROSIS FACTOR
;    NUMBER OF SEQUENCES:  19
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Hamilton, Brook, Smith & Reynolds, P.C.
;      STREET:  Two Militia Drive
;      CITY:  Lexington
;      STATE:  Massachusetts
;      COUNTRY:  USA
;      ZIP:  02173
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
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;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/324,799
;      FILING DATE:  18-OCT-1994
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  08/192,093
;      FILING DATE:  04-FEB-1994
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  08/192,102
;      FILING DATE:  04-FEB-1994
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  08/192,861
;      FILING DATE:  04-FEB-1994
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 08/013,413
;      FILING DATE:  02-FEB-1993
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 08/010,406
;      FILING DATE:  29-JAN-1993
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 07/943,852
;      FILING DATE:  11-SEP-1992
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 07/853,606
;      FILING DATE:  18-MAR-1992
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 07/670,827
;      FILING DATE:  18-MAR-1991
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Brook, David E.
;      REGISTRATION NUMBER:  22,592
;      REFERENCE/DOCKET NUMBER:  NYU93-01M4
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (617) 861-6240
;      TELEFAX:  (617) 861-9540
;  INFORMATION FOR SEQ ID NO:  1:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  157 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  peptide
US-08-324-799-1

  Query Match             96.4%;  Score 777;  DB 1;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 3.9e-74;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| |||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| |||||||||||||||||||||:||||||| |||||||||||||| ||||||||
Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| |||||||||||||||||||||||||||||
Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 9
US-08-538-875-1
; Sequence 1, Application US/08538875
; Patent No. 5773582
;  GENERAL INFORMATION:
;    APPLICANT:  Shin, Hang-Cheol
;    APPLICANT:  Shin, Nam-Kyu
;    APPLICANT:  Lee, Inkyung
;    APPLICANT:  Kang, Sungzong
;    TITLE OF INVENTION:  TUMOR NECROSIS FACTOR MUTEINS
;    NUMBER OF SEQUENCES:  73
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Shin, Hang-Cheol
;      STREET:  Jukong Gocheung Apt. 1014-806, Haan-dong
;      CITY:  Kwangmyung-shi
;      STATE:  Kyungki-do
;      COUNTRY:  Republic of Korea
;      ZIP:  423-060
;      ADDRESSEE:  Shin, Nam-Kyu
;      STREET:  #181-404 Sadang-4-dong, Dongjak-ku
;      CITY:  Seoul
;      STATE:
;      COUNTRY:  Republic of Korea
;      ZIP:  156-094
;      ADDRESSEE:  Lee, Inkyung
;      STREET:  11/2, #302-39 Juan-4-dong, Nam-ku
;      CITY:  Incheon
;      STATE:
;      COUNTRY:  Republic of Korea
;      ZIP:  402-204
;      ADDRESSEE:  Kang, Sungzong
;      STREET:  #84-4 Daeshin-dong, Seodaemun-ku
;      CITY:  Seoul
;      STATE:
;      COUNTRY:  Republic of Korea
;      ZIP:  120-160
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Diskette 3.5inch 2.0Mb storage
;      COMPUTER:  IBM PC/AT
;      OPERATING SYSTEM:  MS-DOS
;      SOFTWARE:  WordPerfect 5.1
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/538,875
;      FILING DATE:
;      CLASSIFICATION:  435
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/193,336
;      FILING DATE:
;      APPLICATION NUMBER:  KR 93-1751
;      FILING DATE:  9-FEB-1993
;    ATTORNEY/AGENT INFORMATION:
;      NAME:
;      REGISTRATION NUMBER:
;      REFERENCE/DOCKET NUMBER:
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:
;      TELEFAX:
;  INFORMATION FOR SEQ ID NO:  1:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  157 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
US-08-538-875-1

  Query Match             96.4%;  Score 777;  DB 1;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 3.9e-74;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| |||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| |||||||||||||||||||||:||||||| |||||||||||||| ||||||||
Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
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Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 10
US-08-394-600B-17
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; Sequence 17, Application US/08394600B
; Patent No. 5843693
;  GENERAL INFORMATION:
;    APPLICANT:  Halenbeck, Robert F.
;    APPLICANT:  Jewell, David A.
;    APPLICANT:  Koths, Kirston E.
;    APPLICANT:  Kriegler, Michael
;    APPLICANT:  Perez, Carl
;    TITLE OF INVENTION:  Compositions for the Inhibition of
;    TITLE OF INVENTION:  Protein Hormone Formation and Uses Thereof
;    NUMBER OF SEQUENCES:  28
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  McAndrews, Held & Malloy, Ltd.
;      STREET:  500 West Madison Street; 34th Floor
;      CITY:  Chicago
;      STATE:  Illinois
;      COUNTRY:  United States of America
;      ZIP:  60661
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/394,600B
;      FILING DATE:  02/27/95
;      CLASSIFICATION:  435
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Donald J. Pochopien
;      REGISTRATION NUMBER:  32,167
;      REFERENCE/DOCKET NUMBER:  820.005/11850US05
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  312/707-8889
;      TELEFAX:  312/707-9155
;      TELEX:
;  INFORMATION FOR SEQ ID NO:  17:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  157 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
US-08-394-600B-17

  Query Match             96.4%;  Score 777;  DB 1;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 3.9e-74;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| |||||||||||||||||||||:||||||| ||||||||||||| ||||||||
Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
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Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 11
US-08-500-860A-35
; Sequence 35, Application US/08500860A
; Patent No. 5891679
;  GENERAL INFORMATION:
;    APPLICANT:  LUCAS, RUDOLPH
;    APPLICANT:  DE BAETSELIER, PATRICK
;    APPLICANT:  FRANSEN, LUCIE
;    APPLICANT:  SABLON, ERWIN
;    TITLE OF INVENTION:  TNF-MUTEINS, A PROCESS FOR PREPARING THEM AND
;    TITLE OF INVENTION:  THEIR USE AS ACTIVE SUBSTANCES IN PHARMACEUTICAL COMPOSITIONS
;    NUMBER OF SEQUENCES:  36
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  NIXON & VANDERHYE P.C.
;      STREET:  1100 NORTH GLEBE ROAD
;      CITY:  ARLINGTON
;      STATE:  VIRGINIA
;      COUNTRY:  U.S.A.
;      ZIP:  22201-4714
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/500,860A
;      FILING DATE:
;      CLASSIFICATION:  435
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  BYRNE, THOMAS E.
;      REGISTRATION NUMBER:  32,205
;      REFERENCE/DOCKET NUMBER:  1487-8
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (703)816-4000
;      TELEFAX:  (703)816-4100
;      TELEX:  200797 NIXN UR
;  INFORMATION FOR SEQ ID NO:  35:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  157 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  peptide
US-08-500-860A-35

  Query Match             96.4%;  Score 777;  DB 1;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 3.9e-74;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| |||||||||||||||||||||:||||||| ||||||||||||| ||||||||
Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
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Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 12
US-08-192-861A-1
; Sequence 1, Application US/08192861A
; Patent No. 5919452
;  GENERAL INFORMATION:
;    APPLICANT:  Le, Junming
;    APPLICANT:  Vilcek, Jan
;    APPLICANT:  Daddona, Peter E.
;    APPLICANT:  Ghrayeb, John
;    APPLICANT:  Knight, David M.
;    APPLICANT:  Siegel, Scott A.
;    TITLE OF INVENTION:  METHODS OF TREATING TNF'-MEDIATED DISEASE USING
;    TITLE OF INVENTION:  CHIMERIC ANTI-TNF ANTIBODIES (As Amended)
;    NUMBER OF SEQUENCES:  19
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Hamilton, Brook, Smith & Reynolds, P.C.
;      STREET:  Two Militia Drive
;      CITY:  Lexington
;      STATE:  Massachusetts
;      COUNTRY:  USA
;      ZIP:  02173
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
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;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/192,861A
;      FILING DATE:  04-FEB-1994
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 08/013,413
;      FILING DATE:  02-FEB-1993
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 08/010,406
;      FILING DATE:  29-JAN-1993
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 07/943,852
;      FILING DATE:  11-SEP-1992
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 07/853,606
;      FILING DATE:  18-MAR-1992
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 07/670,827
;      FILING DATE:  18-MAR-1991
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Brook, David E.
;      REGISTRATION NUMBER:  22,592
;      REFERENCE/DOCKET NUMBER:  NYU93-01M2
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (781) 861-6240
;      TELEFAX:  (781) 861-9540
;  INFORMATION FOR SEQ ID NO:  1:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  157 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  peptide
US-08-192-861A-1

  Query Match             96.4%;  Score 777;  DB 1;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 3.9e-74;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| |||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| |||||||||||||||||||||:||||||| |||||||||||||| ||||||||
Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||||||||||||||||||||||||
Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 13
US-08-600-783-5
; Sequence 5, Application US/08600783
; Patent No. 5962267
;  GENERAL INFORMATION:
;    APPLICANT:  SHIN, Hang Cheol
;    APPLICANT:  CHANG, Seung Gu
;    APPLICANT:  KIM, Dae Young
;    APPLICANT:  KIM, Chong Suhl
;    TITLE OF INVENTION:  Proinsulin Derivative and Process
;    TITLE OF INVENTION:  for Producing Human Insulin
;    NUMBER OF SEQUENCES:  36
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  SHIN, Hang Cheol
;      STREET:  Ssangma-Hanshin Apt. 102-1206,
;      STREET:  #245 Cholsan-dong
;      CITY:  Kwangmyung-shi
;      STATE:  Kyungki-do
;      COUNTRY:  Republic of Korea
;      ZIP:  423-030
;      ADDRESSEE:  CHANG, Seung Gu
;      STREET:  Hyundai Apt. 71-203, Apkujong-dong,
;      STREET:  Kangnam-ku
;      CITY:  Seoul
;      STATE:  Seoul
;      COUNTRY:  Republic of Korea
;      ZIP:  135-110
;      ADDRESSEE:  KIM, Dae Young
;      STREET:  Sosa Jukong Apt. 108-202, Sosa Bon-dong,
;      STREET:  Sosa-ku
;      CITY:  Bucheon-shi
;      STATE:  Kyungki-do
;      COUNTRY:  Republic of Korea
;      ZIP:  422-230
;      ADDRESSEE:  KIM, Chong Suhl
;      STREET:  Garden Heights Apt. 202-801, #100,
;      STREET:  Hwangkeum-dong, Soosung-ku
;      CITY:  Taegu
;      STATE:  Taegu
;      COUNTRY:  Republic of Korea
;      ZIP:  706-040
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy Disk, 3.5 inch, 1.44MB storage
;      COMPUTER:  IBM PC/AT
;      OPERATING SYSTEM:  MS-DOS
;      SOFTWARE:  Word Perfect 5.1
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/600,783
;      FILING DATE:
;      CLASSIFICATION:  514
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  KR 95-2751
;      FILING DATE:  15-FEB-1995
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Shahan Islam
;      REGISTRATION NUMBER:  32,507
;      REFERENCE/DOCKET NUMBER:
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (212) 278-1000
;      TELEFAX:  (212) 953-7249
;  INFORMATION FOR SEQ ID NO:  5:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  157 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
US-08-600-783-5

  Query Match             96.4%;  Score 777;  DB 1;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 3.9e-74;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| |||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| |||||||||||||||||||||:||||||| |||||||||||||| ||||||||
Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
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Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 14
US-08-584-031-13
; Sequence 13, Application US/08584031A
; Patent No. 6030945
; GENERAL INFORMATION:
;  APPLICANT: Ashkenazi, Avi J.
;  TITLE OF INVENTION: APO-2 LIGAND
;  FILE REFERENCE: 11669.22US03
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;  CURRENT APPLICATION NUMBER: US/08/584,031A
;  CURRENT FILING DATE: 1996-01-09
;  NUMBER OF SEQ ID NOS: 17
;  SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 13
;   LENGTH: 157
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-08-584-031-13

  Query Match             96.4%;  Score 777;  DB 2;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 3.9e-74;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| |||||||||||||||||||||:||||||| |||||||||||| ||||||||
Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| |||||||||||||||||||||||||||||
Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 15
US-08-714-960B-1
; Sequence 1, Application US/08714960B
; Patent No. 6121237
;  GENERAL INFORMATION:
;    APPLICANT:  RATHJEN, Deborah A
;    APPLICANT:  FERRANTE, Antonio
;    TITLE OF INVENTION:  Neutrophil Stimulating Peptides
;    NUMBER OF SEQUENCES:  19
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  BANNER & WITCOFF, LTD.
;      STREET:  10 S. Wacker Drive, Suite 3000
;      CITY:  Chicago
;      STATE:  Illinois
;      COUNTRY:  USA
;      ZIP:  60606
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  1.44 Mb storage diskette, 3.50 inch
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  IBM compatible PC/MS-DOS
;      SOFTWARE:  WordPerfect version 6.1
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/714,960B
;      FILING DATE:  17-SEP-1996
;      CLASSIFICATION:  514
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  AU PJ9065
;      FILING DATE:  12-MAR-1990
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  PCT/AU91/00086
;      FILING DATE:  12-MAR-1991
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 07/930,415
;      FILING DATE:  09-NOV-1992
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 08/107,235
;      FILING DATE:  16-AUG-1993
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Resis, Robert H.
;      REGISTRATION NUMBER:  32,168
;      REFERENCE/DOCKET NUMBER:  92,622-B
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (312) 715-1000
;      TELEFAX:  (312) 715-1234
;  INFORMATION FOR SEQ ID NO:  1:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  157 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  not relevant
;    MOLECULE TYPE:  protein
;    FEATURE:
;      NAME/KEY:  Protein
;      LOCATION:  1..157
;      OTHER INFORMATION:  /note= "Human TNF"
US-08-714-960B-1

  Query Match             96.4%;  Score 777;  DB 2;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 3.9e-74;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| |||||||||||||||||||||:||||||| |||||||||||| ||||||||
Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| |||||||||||||||||||||||||||||
Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


Search completed: May  5, 2006, 11:27:11
Job time : 15.25 secs
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GenCore version 5.1.7

OM protein - protein search, using sw model

Run on: May 5, 2006, 11:26:23 ; Search time 45.5 Seconds
(without alignments)
1441.741 Million cell updates/sec

Title: US-10-668-178-15
Perfect score: 806
Sequence: 1 VRSSSRTPSDAPVAHVVANP.....RPDYLDFAESGQVYFGIIAL 157

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 1867569 seqs, 417829326 residues

Total number of hits satisfying chosen parameters: 1867569

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : Published_Applications_AA_Main:*
1: /cgn2_6/ptodata/1/pubpaa/US07_PUBCOMB.pep:*
2: /cgn2_6/ptodata/1/pubpaa/US08_PUBCOMB.pep:*
3: /cgn2_6/ptodata/1/pubpaa/US09_PUBCOMB.pep:*
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6: /cgn2_6/ptodata/1/pubpaa/US11_PUBCOMB.pep:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	806	100.0	157	5	US-10-668-178-15	Sequence 15, Appl
2	806	100.0	157	5	US-10-668-178-16	Sequence 16, Appl
3	778	96.5	157	4	US-10-262-630-13	Sequence 13, Appl
4	778	96.5	157	4	US-10-354-985-2	Sequence 2, Appli
5	778	96.5	157	5	US-10-668-178-2	Sequence 2, Appli
6	777	96.4	157	3	US-09-756-301A-1	Sequence 1, Appli
7	777	96.4	157	3	US-09-927-703-1	Sequence 1, Appli
8	777	96.4	157	3	US-09-854-280-19	Sequence 19, Appl
9	777	96.4	157	3	US-09-934-465-13	Sequence 13, Appl
10	777	96.4	157	3	US-09-766-535A-1	Sequence 1, Appli
11	777	96.4	157	3	US-09-854-208-19	Sequence 19, Appl
12	777	96.4	157	3	US-09-756-161A-1	Sequence 1, Appli
13	777	96.4	157	3	US-09-903-327A-7	Sequence 7, Appli
14	777	96.4	157	3	US-09-756-398B-1	Sequence 1, Appli
15	777	96.4	157	3	US-09-897-724-1	Sequence 1, Appli
16	777	96.4	157	4	US-10-010-229-1	Sequence 1, Appli
17	777	96.4	157	4	US-10-043-450-1	Sequence 1, Appli
18	777	96.4	157	4	US-10-044-534-1	Sequence 1, Appli
19	777	96.4	157	4	US-10-099-007A-1	Sequence 1, Appli
20	777	96.4	157	4	US-10-043-432-1	Sequence 1, Appli
21	777	96.4	157	4	US-10-119-621-1	Sequence 1, Appli
22	777	96.4	157	4	US-10-208-145-1	Sequence 1, Appli
23	777	96.4	157	4	US-10-262-630-9	Sequence 9, Appli
24	777	96.4	157	4	US-10-305-347A-9	Sequence 9, Appli
25	777	96.4	157	4	US-10-198-845-1	Sequence 1, Appli
26	777	96.4	157	4	US-10-227-488-1	Sequence 1, Appli
27	777	96.4	157	4	US-10-170-812-7	Sequence 7, Appli
28	777	96.4	157	4	US-10-187-121-1	Sequence 1, Appli
29	777	96.4	157	4	US-10-176-460-1	Sequence 1, Appli
30	777	96.4	157	4	US-10-186-559-1	Sequence 1, Appli
31	777	96.4	157	4	US-10-371-961-1	Sequence 1, Appli
32	777	96.4	157	4	US-10-200-795-1	Sequence 1, Appli
33	777	96.4	157	4	US-10-319-011-1	Sequence 1, Appli
34	777	96.4	157	4	US-10-371-443-1	Sequence 1, Appli
35	777	96.4	157	4	US-10-379-866-1	Sequence 1, Appli
36	777	96.4	157	4	US-10-371-962-1	Sequence 1, Appli
37	777	96.4	157	4	US-10-354-985-1	Sequence 1, Appli
38	777	96.4	157	4	US-10-397-786A-1	Sequence 1, Appli
39	777	96.4	157	4	US-10-665-971-1	Sequence 1, Appli
40	777	96.4	157	4	US-10-637-759-1	Sequence 1, Appli
41	777	96.4	157	4	US-10-327-619-1	Sequence 1, Appli
42	777	96.4	157	4	US-10-774-118-1	Sequence 1, Appli
43	777	96.4	157	4	US-10-394-471B-17	Sequence 17, Appl
44	777	96.4	157	5	US-10-861-685-13	Sequence 13, Appl
45	777	96.4	157	5	US-10-668-178-1	Sequence 1, Appli

ALIGNMENTS

RESULT 1
US-10-668-178-15
; Sequence 15, Application US/10668178
; Publication No. US20050013795A1
; GENERAL INFORMATION:
; APPLICANT: KABUSHIKI KAISHA HAYASHIBARA SEIBUTSU KAGAKU KENKYUJO
; APPLICANT: MAYUMI, Tadanori
; APPLICANT: TSUTSUMI, Yasuo
; APPLICANT: NAKAGAWA, Shinsaku
; APPLICANT: IKEGAMI, Hakuo
; TITLE OF INVENTION: Biologically-active conjugate
; FILE REFERENCE: MAYUMI2A
; CURRENT APPLICATION NUMBER: US/10/668,178
; CURRENT FILING DATE: 2003-09-24
; PRIOR APPLICATION NUMBER: JP 83509/2002
; PRIOR FILING DATE: 2002-03-25
; PRIOR APPLICATION NUMBER: JP 185387/2002
; PRIOR FILING DATE: 2002-06-26
; NUMBER OF SEQ ID NOS: 16
; SOFTWARE: PatentIn version 3.3
; SEQ ID NO 15
; LENGTH: 157
; TYPE: PRT
; ORGANISM: Artificial
; FEATURE:
; OTHER INFORMATION: Synthetic Construct
US-10-668-178-15

Query Match 100.0%; Score 806; DB 5; Length 157;
Best Local Similarity 100.0%; Pred. No. 6.3e-82;
Matches 157; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
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Db          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              |||||||||||||||||||||||||||||||||||||
Db        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
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RESULT 2
US-10-668-178-16
; Sequence 16, Application US/10668178
; Publication No. US20050013795A1
; GENERAL INFORMATION:

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;  APPLICANT: KABUSHIKI KAISHA HAYASHIBARA SEIBUTSU KAGAKU KENKYUJO
;  APPLICANT:  MAYUMI, Tadanori
;  APPLICANT:  TSUTSUMI, Yasuo
;  APPLICANT:  NAKAGAWA, Shinsaku
;  APPLICANT:  IKEGAMI, Hakuo
;  TITLE OF INVENTION: Biologically-active conjugate
;  FILE REFERENCE: MAYUMI2A
;  CURRENT APPLICATION NUMBER: US/10/668,178
;  CURRENT FILING DATE:  2003-09-24
;  PRIOR APPLICATION NUMBER: JP 83509/2002
;  PRIOR FILING DATE: 2002-03-25
;  PRIOR APPLICATION NUMBER: JP 185387/2002
;  PRIOR FILING DATE: 2002-06-26
;  NUMBER OF SEQ ID NOS: 16
;  SOFTWARE: PatentIn version 3.3
; SEQ ID NO 16
;   LENGTH: 157
;   TYPE: PRT
;   ORGANISM: Artificial
;   FEATURE:
;   OTHER INFORMATION: synthetic (Variant protein of human tumor necrosis factor)
US-10-668-178-16

  Query Match             100.0%;  Score 806;  DB 5;  Length 157;
  Best Local Similarity   100.0%;  Pred. No. 6.3e-82;
  Matches  157;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
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Db          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
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Db        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 3
US-10-262-630-13
; Sequence 13, Application US/10262630
; Publication No. US20030138401A1
; GENERAL INFORMATION:
;  APPLICANT: Dahiyat, Bassil I.
;  APPLICANT:  Desjarlais, John R.
;  APPLICANT:  Filikov, Anton
;  APPLICANT:  Muchhal, Umesh
;  APPLICANT:  Tansey, Malu Lourdas G.
;  APPLICANT:  Zalevsky, Jonathan
;  TITLE OF INVENTION: PROTEIN BASED TNF-ALPHA VARIANTS FOR THE TREATMENT OF TNF-ALPHA
;  TITLE OF INVENTION:  RELATED DISORDERS
;  FILE REFERENCE: A-68990-4/RFT/RMS/RMK
;  CURRENT APPLICATION NUMBER: US/10/262,630
;  CURRENT FILING DATE:  2003-01-27
;  PRIOR APPLICATION NUMBER: US 60/186,427
;  PRIOR FILING DATE: 2000-03-02
;  PRIOR APPLICATION NUMBER: US 09/945,150
;  PRIOR FILING DATE: 2001-08-31
;  PRIOR APPLICATION NUMBER: US 09/798,789
;  PRIOR FILING DATE: 2001-03-02
;  PRIOR APPLICATION NUMBER: US 09/981,289
;  PRIOR FILING DATE: 2001-10-15
;  NUMBER OF SEQ ID NOS: 33
;  SOFTWARE: PatentIn version 3.2
; SEQ ID NO 13
;   LENGTH: 157
;   TYPE: PRT
;   ORGANISM: Artificial Sequence
;   FEATURE:
;   OTHER INFORMATION: synthetic
;   FEATURE:
;   NAME/KEY: MISC_FEATURE
;   LOCATION: (112)..(112)
;   OTHER INFORMATION: "Xaa" at position 112 can be Asp or Glu
US-10-262-630-13

  Query Match             96.5%;  Score 778;  DB 4;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 8.7e-79;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
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Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||||||||||||||||||||||
Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 4
US-10-354-985-2
; Sequence 2, Application US/10354985
; Publication No. US20040001802A1
; GENERAL INFORMATION:
;  APPLICANT: MAYUMI, Tandanori et al.
;  TITLE OF INVENTION: PHYSIOLOGICALLY ACTIVE COMPLEX
;  FILE REFERENCE: MAYUMI=2
;  CURRENT APPLICATION NUMBER: US/10/354,985
;  CURRENT FILING DATE:  2003-01-31
;  PRIOR APPLICATION NUMBER: JP 083509/2002
;  PRIOR FILING DATE: 2002-03-25
;  PRIOR APPLICATION NUMBER: JP 1185387/2002
;  PRIOR FILING DATE: 2002-06-26
;  NUMBER OF SEQ ID NOS: 12
;  SOFTWARE: PatentIn version 3.2
; SEQ ID NO 2
;   LENGTH: 157
;   TYPE: PRT
;   ORGANISM: Artificial
;   FEATURE:
;   OTHER INFORMATION: Variant protein of human tumor necrosis factor
;   FEATURE:
;   NAME/KEY: misc_feature
;   LOCATION: (11)..(11)
;   OTHER INFORMATION: Xaa can be any naturally occurring amino acid
;   FEATURE:
;   NAME/KEY: misc_feature
;   LOCATION: (65)..(65)
;   OTHER INFORMATION: Xaa can be any naturally occurring amino acid
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;   NAME/KEY: misc_feature
;   LOCATION: (90)..(90)
;   OTHER INFORMATION: Xaa can be any naturally occurring amino acid
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;   NAME/KEY: misc_feature
;   LOCATION: (98)..(98)
;   OTHER INFORMATION: Xaa can be any naturally occurring amino acid
;   FEATURE:
;   NAME/KEY: misc_feature
;   LOCATION: (112)..(112)
;   OTHER INFORMATION: Xaa can be any naturally occurring amino acid
;   FEATURE:
;   NAME/KEY: misc_feature
;   LOCATION: (128)..(128)
;   OTHER INFORMATION: Xaa can be any naturally occurring amino acid
US-10-354-985-2

  Query Match             96.5%;  Score 778;  DB 4;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 8.7e-79;
  Matches  151;  Conservative    0;  Mismatches    6;  Indels    0;  Gaps    0;
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Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
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Db          1 VRSSSRTPSDXPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| |||||||||||||||||||||| ||||||| |||||||||||| ||||||||
Db         61 QVLFXGQGCPSTHVLLTHTISRIAVSYQTXVNLLSAIXSPCQRETPEGAEAXPWYEPIYL 120

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||||||||||||||||||||||
Db        121 GGVFQLEXGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 5
US-10-668-178-2
; Sequence 2, Application US/10668178
; Publication No. US20050013795A1
; GENERAL INFORMATION:
;  APPLICANT: KABUSHIKI KAISHA HAYASHIBARA SEIBUTSU KAGAKU KENKYUJO
;  APPLICANT:  MAYUMI, Tadanori
;  APPLICANT:  TSUTSUMI, Yasuo
;  APPLICANT:  NAKAGAWA, Shinsaku
;  APPLICANT:  IKEGAMI, Hakuo
;  TITLE OF INVENTION: Biologically-active conjugate
;  FILE REFERENCE: MAYUMI2A
;  CURRENT APPLICATION NUMBER: US/10/668,178
;  CURRENT FILING DATE:  2003-09-24
;  PRIOR APPLICATION NUMBER: JP 83509/2002
;  PRIOR FILING DATE: 2002-03-25
;  PRIOR APPLICATION NUMBER: JP 185387/2002
;  PRIOR FILING DATE: 2002-06-26
;  NUMBER OF SEQ ID NOS: 16
;  SOFTWARE: PatentIn version 3.3
; SEQ ID NO 2
;   LENGTH: 157
;   TYPE: PRT
;   ORGANISM: Artificial
;   FEATURE:
;   OTHER INFORMATION: synthetic (Variant protein of human tumor necrosis factor)
;   FEATURE:
;   NAME/KEY: misc_feature
;   LOCATION: (11)..(11)
;   OTHER INFORMATION: Xaa can be any naturally occurring amino acid
;   FEATURE:
;   NAME/KEY: misc_feature
;   LOCATION: (65)..(65)
;   OTHER INFORMATION: Xaa can be any naturally occurring amino acid
;   FEATURE:
;   NAME/KEY: misc_feature
;   LOCATION: (90)..(90)
;   OTHER INFORMATION: Xaa can be any naturally occurring amino acid
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;   NAME/KEY: misc_feature
;   LOCATION: (98)..(98)
;   OTHER INFORMATION: Xaa can be any naturally occurring amino acid
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;   NAME/KEY: misc_feature
;   LOCATION: (112)..(112)
;   OTHER INFORMATION: Xaa can be any naturally occurring amino acid
;   FEATURE:
;   NAME/KEY: misc_feature
;   LOCATION: (128)..(128)
;   OTHER INFORMATION: Xaa can be any naturally occurring amino acid
US-10-668-178-2

  Query Match             96.5%;  Score 778;  DB 5;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 8.7e-79;
  Matches  151;  Conservative    0;  Mismatches    6;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| |||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDXPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| |||||||||||||||||||||| ||||||| |||||||||||| ||||||||
Db         61 QVLFXGQGCPSTHVLLTHTISRIAVSYQTXVNLLSAIXSPCQRETPEGAEAXPWYEPIYL 120

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||||||||||||||||||||||
Db        121 GGVFQLEXGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 6
US-09-756-301A-1
; Sequence 1, Application US/09756301A
; Patent No. US20010027249A1
; GENERAL INFORMATION:
;  APPLICANT: Le, Junming
;  APPLICANT:  Vilcek, Jan
;  APPLICANT:  Daddona, Peter
;  APPLICANT:  Ghrayeb, John
;  APPLICANT:  Knight, David M.
;  APPLICANT:  Siegel, Scott
;  TITLE OF INVENTION: Anti-TNF Antibodies and Peptides of
;  TITLE OF INVENTION:  Human Tumor Necrosis Factor
;  FILE REFERENCE: 0975.1005-008
;  CURRENT APPLICATION NUMBER: US/09/756,301A
;  CURRENT FILING DATE:  2001-01-08
;  PRIOR APPLICATION NUMBER: U.S. 09/133,119
;  PRIOR FILING DATE: 1998-08-12
;  PRIOR APPLICATION NUMBER: U.S. 08/570,674
;  PRIOR FILING DATE: 1995-12-11
;  PRIOR APPLICATION NUMBER: U.S. 08/324,799
;  PRIOR FILING DATE: 1994-10-18
;  PRIOR APPLICATION NUMBER: U.S. 08/192,102
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: U.S. 08/192,861
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: U.S. 08/192,093
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: U.S. 08/010,406
;  PRIOR FILING DATE: 1993-01-29
;  PRIOR APPLICATION NUMBER: U.S. 08/013,413
;  PRIOR FILING DATE: 1993-02-02
;  PRIOR APPLICATION NUMBER: U.S. 07/943,852
;  PRIOR FILING DATE: 1992-09-11
;  PRIOR APPLICATION NUMBER: U.S. 07/853,606
;  PRIOR FILING DATE: 1992-03-18
;  PRIOR APPLICATION NUMBER: U.S.07/670,827
;  PRIOR FILING DATE: 1991-03-18
;  NUMBER OF SEQ ID NOS: 19
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 1
;   LENGTH: 157
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-09-756-301A-1

  Query Match             96.4%;  Score 777;  DB 3;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 1.1e-78;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| |||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| |||||||||||||||||||||:||||||| |||||||||||| ||||||||
Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||||||||||||||||||||||
Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
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RESULT 7
US-09-927-703-1
; Sequence 1, Application US/09927703
; Patent No. US20020022720A1
; GENERAL INFORMATION:
;  APPLICANT: Le, Junming
;  APPLICANT:  Vilcek, Jan
;  APPLICANT:  Daddona, Peter
;  APPLICANT:  Ghrayeb, John
;  APPLICANT:  Knight, David M.
;  APPLICANT:  Siegel, Scott
;  TITLE OF INVENTION: Anti-TNF Antibodies and Peptides of
;  TITLE OF INVENTION:  Human Tumor Necrosis Factor
;  FILE REFERENCE: 0975.1005-013
;  CURRENT APPLICATION NUMBER: US/09/927,703
;  CURRENT FILING DATE:  2001-08-10
;  PRIOR APPLICATION NUMBER: U.S. 09/756,398
;  PRIOR FILING DATE: 2001-01-08
;  PRIOR APPLICATION NUMBER: U.S. 09/133,119
;  PRIOR FILING DATE: 1998-08-12
;  PRIOR APPLICATION NUMBER: U.S. 08/570,674
;  PRIOR FILING DATE: 1995-12-11
;  PRIOR APPLICATION NUMBER: U.S. 08/324,799
;  PRIOR FILING DATE: 1994-10-18
;  PRIOR APPLICATION NUMBER: U.S. 08/192,102
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: U.S. 08/192,861
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: U.S. 08/192,093
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: U.S. 08/010,406
;  PRIOR FILING DATE: 1993-01-29
;  PRIOR APPLICATION NUMBER: U.S. 08/013,413
;  PRIOR FILING DATE: 1993-02-02
;  PRIOR APPLICATION NUMBER: U.S. 07/943,852
;  PRIOR FILING DATE: 1992-09-11
;  PRIOR APPLICATION NUMBER: U.S. 07/853,606
;  PRIOR FILING DATE: 1992-03-18
;  PRIOR APPLICATION NUMBER: U.S. 07/670,827
;  PRIOR FILING DATE: 1991-03-18
;  NUMBER OF SEQ ID NOS: 19
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 1
;   LENGTH: 157
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-09-927-703-1

  Query Match             96.4%;  Score 777;  DB 3;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 1.1e-78;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| |||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| |||||||||||||||||||||:||||||| |||||||||||||| ||||||||
Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| |||||||||||||||||||||||||||||
Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 8
US-09-854-280-19
; Sequence 19, Application US/09854280
; Patent No. US20020052027A1
; GENERAL INFORMATION:
;  APPLICANT: Chen, Jian
;  APPLICANT:  Filvaroff, Ellen
;  APPLICANT:  Goddard, Audrey
;  APPLICANT:  Gurney, Austin
;  APPLICANT:  Li, Hanzhong
;  APPLICANT:  Wood, William I.
;  TITLE OF INVENTION: IL-17 HOMOLOGOUS POLYPEPTIDES AND THERAPEUTIC USES THEREOF
;  FILE REFERENCE: P1381R1C2
;  CURRENT APPLICATION NUMBER: US/09/854,280
;  CURRENT FILING DATE:  2001-05-10
;  PRIOR APPLICATION NUMBER: US 09/311,832
;  PRIOR FILING DATE: 1999-05-14
;  PRIOR APPLICATION NUMBER: US 60/085,579
;  PRIOR FILING DATE: 1998-05-15
;  PRIOR APPLICATION NUMBER: US 60/113,621
;  PRIOR FILING DATE: 1998-12-23
;  NUMBER OF SEQ ID NOS: 26
; SEQ ID NO 19
;   LENGTH: 157
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-09-854-280-19

  Query Match             96.4%;  Score 777;  DB 3;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 1.1e-78;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| |||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| |||||||||||||||||||||:||||||| |||||||||||||| ||||||||
Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| |||||||||||||||||||||||||||||
Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 9
US-09-934-465-13
; Sequence 13, Application US/09934465
; Patent No. US20020102233A1
; GENERAL INFORMATION:
;  APPLICANT: Ashkenazi, Avi J.
;  TITLE OF INVENTION: APO-2 LIGAND
;  FILE REFERENCE: 11669.22US03
;  CURRENT APPLICATION NUMBER: US/09/934,465
;  CURRENT FILING DATE:  2001-08-21
;  PRIOR APPLICATION NUMBER: 08/584,031
;  PRIOR FILING DATE: 1996-01-09
;  NUMBER OF SEQ ID NOS: 17
;  SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 13
;   LENGTH: 157
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-09-934-465-13

  Query Match             96.4%;  Score 777;  DB 3;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 1.1e-78;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| |||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| |||||||||||||||||||||:||||||| |||||||||||||| ||||||||
Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
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RESULT 10
US-09-766-535A-1
; Sequence 1, Application US/09766535A
; Patent No. US20020106372A1
; GENERAL INFORMATION:
;  APPLICANT: Le, Junming
;  APPLICANT:  Vilcek, Jan
;  APPLICANT:  Daddona, Peter
;  APPLICANT:  Ghrayeb, John
;  APPLICANT:  Knight, David M.
;  APPLICANT:  Siegel, Scott
;  TITLE OF INVENTION: Anti-TNF Antibodies and Peptides of
;  TITLE OF INVENTION:  Human Tumor Necrosis Factor
;  FILE REFERENCE: 0975.1005-010
;  CURRENT APPLICATION NUMBER: US/09/766,535A
;  CURRENT FILING DATE:  2001-01-18
;  PRIOR APPLICATION NUMBER: U.S. 09/133,119
;  PRIOR FILING DATE: 1998-08-12
;  PRIOR APPLICATION NUMBER: U.S. 08/570,674
;  PRIOR FILING DATE: 1995-12-11
;  PRIOR APPLICATION NUMBER: U.S. 08/324,799
;  PRIOR FILING DATE: 1994-10-18
;  PRIOR APPLICATION NUMBER: U.S. 08/192,102
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: U.S. 08/192,861
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: U.S. 08/192,093
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: U.S. 08/010,406
;  PRIOR FILING DATE: 1993-01-29
;  PRIOR APPLICATION NUMBER: U.S. 08/013,413
;  PRIOR FILING DATE: 1993-02-02
;  PRIOR APPLICATION NUMBER: U.S. 07/943,852
;  PRIOR FILING DATE: 1992-09-11
;  PRIOR APPLICATION NUMBER: U.S. 07/853,606
;  PRIOR FILING DATE: 1992-03-18
;  PRIOR APPLICATION NUMBER: U.S. 07/670,827
;  PRIOR FILING DATE: 1991-03-18
;  NUMBER OF SEQ ID NOS: 19
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 1
;   LENGTH: 157
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-09-766-535A-1

  Query Match             96.4%;  Score 777;  DB 3;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 1.1e-78;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| |||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| |||||||||||||||||||||:||||||| |||||||||||||| ||||||||
Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||||||||||||||||||||||||
Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 11
US-09-854-208-19
; Sequence 19, Application US/09854208
; Patent No. US20020106743A1
; GENERAL INFORMATION:
;  APPLICANT: Chen, Jian
;  APPLICANT:  Filvaroff, Ellen
;  APPLICANT:  Goddard, Audrey
;  APPLICANT:  Gurney, Austin
;  APPLICANT:  Li, Hanzhong
;  APPLICANT:  Wood, William I.
;  TITLE OF INVENTION: IL-17 HOMOLOGOUS POLYPEPTIDES AND THERAPEUTIC USES
;  TITLE OF INVENTION:  THEREOF
;  FILE REFERENCE: P1381-R1
;  CURRENT APPLICATION NUMBER: US/09/854,208
;  CURRENT FILING DATE:  2001-05-10
;  PRIOR APPLICATION NUMBER: US/09/311,832
;  PRIOR FILING DATE: 1999-05-14
;  PRIOR APPLICATION NUMBER: US 60/085,579
;  PRIOR FILING DATE: 1998-05-15
;  PRIOR APPLICATION NUMBER: US 60/113,621
;  PRIOR FILING DATE: 1998-12-23
;  NUMBER OF SEQ ID NOS: 26
; SEQ ID NO 19
;   LENGTH: 157
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-09-854-208-19

  Query Match             96.4%;  Score 777;  DB 3;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 1.1e-78;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| |||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| |||||||||||||||||||||:||||||| |||||||||||||| ||||||||
Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||||||||||||||||||||||||
Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 12
US-09-756-161A-1
; Sequence 1, Application US/09756161A
; Patent No. US20020132307A1
; GENERAL INFORMATION:
;  APPLICANT: Le, Junming
;  APPLICANT:  Vilcek, Jan
;  APPLICANT:  Daddona, Peter
;  APPLICANT:  Ghrayeb, John
;  APPLICANT:  Knight, David M.
;  APPLICANT:  Siegel, Scott
;  TITLE OF INVENTION: Anti-TNF Antibodies and Peptides of
;  TITLE OF INVENTION:  Human Tumor Necrosis Factor
;  FILE REFERENCE: 0975.1005-007
;  CURRENT APPLICATION NUMBER: US/09/756,161A
;  CURRENT FILING DATE:  2001-01-08
;  PRIOR APPLICATION NUMBER: U.S. 09/133,119
;  PRIOR FILING DATE: 1998-08-12
;  PRIOR APPLICATION NUMBER: U.S. 08/570,674
;  PRIOR FILING DATE: 1995-12-11
;  PRIOR APPLICATION NUMBER: U.S. 08/324,799
;  PRIOR FILING DATE: 1994-10-18
;  PRIOR APPLICATION NUMBER: U.S. 08/192,102
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: U.S. 08/192,861
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: U.S. 08/192,093
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: U.S. 08/010,406
;  PRIOR FILING DATE: 1993-01-29
;  PRIOR APPLICATION NUMBER: U.S. 08/013,413
;  PRIOR FILING DATE: 1993-02-02
;  PRIOR APPLICATION NUMBER: U.S. 07/943,852
;  PRIOR FILING DATE: 1992-09-11
;  PRIOR APPLICATION NUMBER: U.S. 07/853,606
;  PRIOR FILING DATE: 1992-03-18
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;  PRIOR APPLICATION NUMBER: U.S.07/670,827
;  PRIOR FILING DATE: 1991-03-18
;  NUMBER OF SEQ ID NOS: 19
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 1
;   LENGTH: 157
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-09-756-161A-1

  Query Match             96.4%;  Score 777;  DB 3;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 1.1e-78;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| |||||||||||||||||||||:||||||| |||||||||||| ||||||||
Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| |||||||||||||||||||||||||||||
Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 13
US-09-903-327A-7
; Sequence 7, Application US/09903327A
; Patent No. US20020164333A1
; GENERAL INFORMATION:
;  APPLICANT: Nemerow, Glen R.
;  APPLICANT:  Li, Erguang
;  TITLE OF INVENTION: BIFUNCTIONAL MOLECULES AND VECTORS COMPLEXED THEREWITH FOR TARGET
;  TITLE OF INVENTION:  GENE
;  TITLE OF INVENTION:  DELIVERY
;  FILE REFERENCE: 22908-1228
;  CURRENT APPLICATION NUMBER: US/09/903,327A
;  CURRENT FILING DATE:  2001-07-10
;  PRIOR APPLICATION NUMBER: 09/613,017
;  PRIOR FILING DATE: 2000-07-10
;  NUMBER OF SEQ ID NOS: 33
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 7
;   LENGTH: 157
;   TYPE: PRT
;   ORGANISM: Human
;   FEATURE:
;   NAME/KEY: PEPTIDE
;   LOCATION: (0)...(0)
;   OTHER INFORMATION: Tumor necrosis factor-alpha (TNF alpha, mature
;   OTHER INFORMATION: peptide)
US-09-903-327A-7

  Query Match             96.4%;  Score 777;  DB 3;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 1.1e-78;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| |||||||||||||||||||||:||||||| |||||||||||| ||||||||
Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| |||||||||||||||||||||||||||||
Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 14
US-09-756-398B-1
; Sequence 1, Application US/09756398B
; Publication No. US20030017584A1
; GENERAL INFORMATION:
;  APPLICANT: Le, Junming
;  APPLICANT:  Vilcek, Jan
;  APPLICANT:  Daddona, Peter
;  APPLICANT:  Ghrayeb, John
;  APPLICANT:  Knight, David M.
;  APPLICANT:  Siegel, Scott
;  TITLE OF INVENTION: Anti-TNF Antibodies and Peptides of
;  TITLE OF INVENTION:  Human Tumor Necrosis Factor
;  FILE REFERENCE: 0975.1005-006
;  CURRENT APPLICATION NUMBER: US/09/756,398B
;  CURRENT FILING DATE:  2001-01-08
;  PRIOR APPLICATION NUMBER: U.S. 09/133,119
;  PRIOR FILING DATE: 1998-08-12
;  PRIOR APPLICATION NUMBER: U.S. 08/570,674
;  PRIOR FILING DATE: 1995-12-11
;  PRIOR APPLICATION NUMBER: U.S. 08/324,799
;  PRIOR FILING DATE: 1994-10-18
;  PRIOR APPLICATION NUMBER: U.S. 08/192,102
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: U.S. 08/192,861
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: U.S. 08/192,093
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: U.S. 08/010,406
;  PRIOR FILING DATE: 1993-01-29
;  PRIOR APPLICATION NUMBER: U.S. 08/013,413
;  PRIOR FILING DATE: 1993-02-02
;  PRIOR APPLICATION NUMBER: U.S. 07/943,852
;  PRIOR FILING DATE: 1992-09-11
;  PRIOR APPLICATION NUMBER: U.S. 07/853,606
;  PRIOR FILING DATE: 1992-03-18
;  PRIOR APPLICATION NUMBER: U.S.07/670,827
;  PRIOR FILING DATE: 1991-03-18
;  NUMBER OF SEQ ID NOS: 19
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 1
;   LENGTH: 157
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-09-756-398B-1

  Query Match             96.4%;  Score 777;  DB 3;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 1.1e-78;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
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Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
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Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
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RESULT 15
US-09-897-724-1
; Sequence 1, Application US/09897724
; Publication No. US20030175837A1
; GENERAL INFORMATION:
;  APPLICANT: Le, Junming
;  APPLICANT:  Vilcek, Jan
;  APPLICANT:  Daddona, Peter
;  APPLICANT:  Ghrayeb, John
;  APPLICANT:  Knight, David M.
;  APPLICANT:  Siegel, Scott
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;  TITLE OF INVENTION: Anti-TNF Antibodies and Peptides of
;  TITLE OF INVENTION:  Human Tumor Necrosis Factor
;  FILE REFERENCE: 0975.1005-012
;  CURRENT APPLICATION NUMBER: US/09/897,724
;  CURRENT FILING DATE:  2001-07-02
;  PRIOR APPLICATION NUMBER: U.S. 08/192,093
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: U.S. 08/010,406
;  PRIOR FILING DATE: 1993-01-29
;  PRIOR APPLICATION NUMBER: U.S. 08/013,413
;  PRIOR FILING DATE: 1993-02-02
;  PRIOR APPLICATION NUMBER: U.S. 07/943,852
;  PRIOR FILING DATE: 1992-09-11
;  PRIOR APPLICATION NUMBER: U.S.07/853,606
;  PRIOR FILING DATE: 1992-03-18
;  PRIOR APPLICATION NUMBER: U.S. 07/670,827
;  PRIOR FILING DATE: 1991-03-18
;  NUMBER OF SEQ ID NOS: 19
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 1
;   LENGTH: 157
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-09-897-724-1

  Query Match             96.4%;  Score 777;  DB 3;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 1.1e-78;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
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Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| |||||||||||||||||||||:|||||||| |||||||||||||| ||||||||
Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
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Search completed: May  5, 2006, 11:30:23
Job time : 45.5 secs
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GenCore version 5.1.7

OM protein - protein search, using sw model

Run on: May 5, 2006, 11:26:47 ; Search time 9.75 Seconds
(without alignments)
745.303 Million cell updates/sec

Title: US-10-668-178-15
Perfect score: 806
Sequence: 1 VRSSSRTPSDAPVAHVVANP.....RPDYLDFAESGQVYFGIIAL 157

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 235405 seqs, 46284737 residues

Total number of hits satisfying chosen parameters: 235405

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : Published_Applications_AA_New:*
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2: /SIDS5/ptodata/1/pubpaa/US06_NEW_PUB.pep:*
3: /SIDS5/ptodata/1/pubpaa/US07_NEW_PUB.pep:*
4: /SIDS5/ptodata/1/pubpaa/US08_NEW_PUB.pep:*
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10: /SIDS5/ptodata/1/pubpaa/US11_NEW_PUB.pep:*
11: /SIDS5/ptodata/1/pubpaa/US11_NEW_PUB.pep1:*
12: /SIDS5/ptodata/1/pubpaa/US60_NEW_PUB.pep:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	777	96.4	157	11	US-11-010-954-1	Sequence 1, Appli
2	777	96.4	157	11	US-11-053-750-1	Sequence 1, Appli
3	777	96.4	157	11	US-11-053-749-1	Sequence 1, Appli
4	777	96.4	157	11	US-11-108-001-12	Sequence 12, Appl
5	777	96.4	157	11	US-11-170-753-1	Sequence 1, Appli
6	777	96.4	157	11	US-11-179-359-1	Sequence 1, Appli
7	777	96.4	157	11	US-11-181-030-1	Sequence 1, Appli
8	777	96.4	157	11	US-11-182-033-1	Sequence 1, Appli
9	777	96.4	157	11	US-11-195-589-1	Sequence 1, Appli
10	777	96.4	158	11	US-11-082-544-4	Sequence 4, Appli
11	777	96.4	164	11	US-11-108-001-2	Sequence 2, Appli
12	777	96.4	170	8	US-10-490-953-35	Sequence 35, Appl
13	777	96.4	180	11	US-11-082-544-8	Sequence 8, Appli
14	777	96.4	233	9	US-10-523-328-1	Sequence 1, Appli
15	777	96.4	233	11	US-11-246-387-8	Sequence 8, Appli
16	768	95.3	157	9	US-10-504-389A-55	Sequence 55, Appl
17	632.5	78.5	235	11	US-11-032-797-8	Sequence 8, Appli
18	486	60.3	104	11	US-11-065-669-5	Sequence 5, Appli
19	486	60.3	104	11	US-11-249-714-5	Sequence 5, Appli
20	214.5	26.6	177	9	US-10-999-866-61	Sequence 61, Appl
21	214.5	26.6	205	9	US-10-995-561-1028	Sequence 1028, Ap
22	214.5	26.6	205	9	US-10-995-561-1029	Sequence 1029, Ap
23	169.5	21.0	204	11	US-11-136-341A-31	Sequence 31, Appl
24	169.5	21.0	240	11	US-11-136-341A-1	Sequence 1, Appli
25	167.5	20.8	240	9	US-10-987-663-6	Sequence 6, Appli
26	165.5	20.5	179	8	US-10-861-934-14	Sequence 14, Appl
27	165.5	20.5	179	9	US-10-861-934-14	Sequence 14, Appl
28	165.5	20.5	278	8	US-10-861-934-16	Sequence 16, Appl
29	165.5	20.5	278	8	US-10-861-934-26	Sequence 26, Appl
30	165.5	20.5	278	9	US-10-861-934-16	Sequence 16, Appl
31	165.5	20.5	278	9	US-10-861-934-26	Sequence 26, Appl
32	160.5	19.9	137	8	US-10-861-934-10	Sequence 10, Appl
33	160.5	19.9	137	9	US-10-861-934-10	Sequence 10, Appl
34	160.5	19.9	138	8	US-10-861-934-12	Sequence 12, Appl
35	160.5	19.9	138	9	US-10-861-934-12	Sequence 12, Appl
36	159.5	19.8	179	8	US-10-861-934-22	Sequence 22, Appl
37	159.5	19.8	179	9	US-10-861-934-22	Sequence 22, Appl
38	159.5	19.8	279	8	US-10-861-934-24	Sequence 24, Appl
39	159.5	19.8	279	8	US-10-861-934-32	Sequence 32, Appl
40	159.5	19.8	279	9	US-10-861-934-24	Sequence 24, Appl
41	159.5	19.8	279	9	US-10-861-934-32	Sequence 32, Appl
42	159.5	19.8	279	11	US-11-032-797-5	Sequence 5, Appli
43	156	19.4	239	11	US-11-136-341A-2	Sequence 2, Appli
44	155.5	19.3	137	8	US-10-861-934-18	Sequence 18, Appl
45	155.5	19.3	137	9	US-10-861-934-18	Sequence 18, Appl

ALIGNMENTS

RESULT 1
US-11-010-954-1
; Sequence 1, Application US/11010954
; Publication No. US20050249735A1
; GENERAL INFORMATION:
; APPLICANT: Le, Junming
; APPLICANT: Vilcek, Jan
; APPLICANT: Daddona, Peter
; APPLICANT: Ghrayeb, John
; APPLICANT: Knight, David
; APPLICANT: Siegel, Scott
; APPLICANT: Shealy, David
; TITLE OF INVENTION: Methods of Treating Ankylosing Spondylitis Using Anti-TNF Antibo
; TITLE OF INVENTION: and Peptides of Human Tumor Necrosis Factor
; FILE REFERENCE: 0975.1005-043
; CURRENT APPLICATION NUMBER: US/11/010,954
; CURRENT FILING DATE: 2004-12-13
; PRIOR APPLICATION NUMBER: US 10/637,759
; PRIOR FILING DATE: 2003-08-08
; PRIOR APPLICATION NUMBER: US 09/920,137
; PRIOR FILING DATE: 2001-08-01
; PRIOR APPLICATION NUMBER: US 09/927,703
; PRIOR FILING DATE: 2001-08-10
; PRIOR APPLICATION NUMBER: US 09/756,398
; PRIOR FILING DATE: 2001-01-08
; PRIOR APPLICATION NUMBER: US 60/236,826
; PRIOR FILING DATE: 2000-09-29
; PRIOR APPLICATION NUMBER: US 60/223,360
; PRIOR FILING DATE: 2000-08-07
; NUMBER OF SEQ ID NOS: 30
; SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 1
; LENGTH: 157
; TYPE: PRT
; ORGANISM: Homo sapiens
US-11-010-954-1

Query Match 96.4%; Score 777; DB 11; Length 157;
Best Local Similarity 96.2%; Pred. No. 8e-76;
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

Qy 1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
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Qy          61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
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Db          61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy         121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
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Db         121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 2
US-11-053-750-1
; Sequence 1, Application US/11053750
; Publication No. US20050255104A1
; GENERAL INFORMATION:
;  APPLICANT: Le, Junming
;  APPLICANT:  Vilcek, Jan
;  APPLICANT:  Daddona, Peter
;  APPLICANT:  Ghrayeb, John
;  APPLICANT:  Knight, David
;  APPLICANT:  Siegel, Scott
;  APPLICANT:  Scallon, Bernard
;  TITLE OF INVENTION: Methods of Treating Psoriasis Using
;  TITLE OF INVENTION:  Anti-TNF Receptor Fusion Proteins
;  FILE REFERENCE: 0975.1005-045
;  CURRENT APPLICATION NUMBER: US/11/053,750
;  CURRENT FILING DATE:  2005-02-07
;  PRIOR APPLICATION NUMBER: U.S. 09/927,703
;  PRIOR FILING DATE: 2001-08-10
;  PRIOR APPLICATION NUMBER: U.S. 09/756,398
;  PRIOR FILING DATE: 2001-01-08
;  PRIOR APPLICATION NUMBER: U.S. 09/133,119
;  PRIOR FILING DATE: 1998-08-12
;  PRIOR APPLICATION NUMBER: U.S. 08/570,674
;  PRIOR FILING DATE: 1995-12-11
;  PRIOR APPLICATION NUMBER: U.S. 08/324,799
;  PRIOR FILING DATE: 1994-10-18
;  PRIOR APPLICATION NUMBER: U.S. 08/192,102
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: U.S. 08/192,861
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: U.S. 08/192,093
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: U.S. 09/010,406
;  PRIOR FILING DATE: 1993-01-29
;  PRIOR APPLICATION NUMBER: U.S. 08/013,413
;  PRIOR FILING DATE: 1993-02-02
;  NUMBER OF SEQ ID NOS: 30
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 1
;   LENGTH: 157
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-11-053-750-1

  Query Match             96.4%;  Score 777;  DB 11;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 8e-76;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
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Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
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Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
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Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 3
US-11-053-749-1
; Sequence 1, Application US/11053749
; Publication No. US20050260201A1
; GENERAL INFORMATION:
;  APPLICANT: Le, Junming
;  APPLICANT:  Vilcek, Jan
;  APPLICANT:  Daddona, Peter
;  APPLICANT:  Ghrayeb, John
;  APPLICANT:  Knight, David
;  APPLICANT:  Siegel, Scott
;  APPLICANT:  Scallon, Bernard
;  TITLE OF INVENTION: Methods of Treating Rheumatoid Arthritis
;  TITLE OF INVENTION:  Using Anti-TNF Receptor Fusion Proteins
;  FILE REFERENCE: 0975.1005-040
;  CURRENT APPLICATION NUMBER: US/11/053,749
;  CURRENT FILING DATE:  2005-02-07
;  PRIOR APPLICATION NUMBER: US/09/927,703
;  PRIOR FILING DATE: 2001-08-10
;  PRIOR APPLICATION NUMBER: U.S. 09/927,703
;  PRIOR FILING DATE: 2001-08-10
;  PRIOR APPLICATION NUMBER: U.S. 09/756,398
;  PRIOR FILING DATE: 2001-01-08
;  PRIOR APPLICATION NUMBER: U.S. 09/133,119
;  PRIOR FILING DATE: 1998-08-12
;  PRIOR APPLICATION NUMBER: U.S. 08/570,674
;  PRIOR FILING DATE: 1995-12-11
;  PRIOR APPLICATION NUMBER: U.S. 08/324,799
;  PRIOR FILING DATE: 1994-10-18
;  PRIOR APPLICATION NUMBER: U.S. 08/192,102
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: U.S. 08/192,861
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: U.S. 08/192,093
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: U.S.08/010,406
;  PRIOR FILING DATE: 1993-01-29
;  Remaining Prior Application data removed - See File Wrapper or PALM.
;  NUMBER OF SEQ ID NOS: 30
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 1
;   LENGTH: 157
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-11-053-749-1

  Query Match             96.4%;  Score 777;  DB 11;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 8e-76;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
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Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
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Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
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Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 4
US-11-108-001-12
; Sequence 12, Application US/11108001
; Publication No. US20050265962A1
; GENERAL INFORMATION:
;  APPLICANT: Desjarlais, John R.
;  APPLICANT:  Steed, Paul Michael
;  APPLICANT:  Zalevsky, Jonathan
;  APPLICANT:  Szymkowski, David Edmund
;  TITLE OF INVENTION: PROTEIN BASED TNF-ALPHA VARIANTS FOR THE TREATMENT OF TNF-ALPHA
;  TITLE OF INVENTION:  RELATED DISORDERS
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;  FILE REFERENCE: A-68990-7
;  CURRENT APPLICATION NUMBER: US/11/108,001
;  CURRENT FILING DATE:  2005-04-14
;  PRIOR APPLICATION NUMBER: US 10/963,994
;  PRIOR FILING DATE: 2004-10-12
;  PRIOR APPLICATION NUMBER: US 09/798,789
;  PRIOR FILING DATE: 2001-03-02
;  PRIOR APPLICATION NUMBER: US 09/945,150
;  PRIOR FILING DATE: 2001-08-31
;  PRIOR APPLICATION NUMBER: US 09/981,289
;  PRIOR FILING DATE: 2001-10-15
;  PRIOR APPLICATION NUMBER: US 10/262,630
;  PRIOR FILING DATE: 2002-09-30
;  PRIOR APPLICATION NUMBER: US 60/553,908
;  PRIOR FILING DATE: 2004-03-17
;  PRIOR APPLICATION NUMBER: US 60/510,430
;  PRIOR FILING DATE: 2003-10-10
;  PRIOR APPLICATION NUMBER: US 60/509,960
;  PRIOR FILING DATE: 2003-10-09
;  PRIOR APPLICATION NUMBER: US 60/528,275
;  PRIOR FILING DATE: 2003-12-08
;  PRIOR APPLICATION NUMBER: US 60/523,647
;  PRIOR FILING DATE: 2003-11-20
;  Remaining Prior Application data removed - See File Wrapper or PALM.
;  NUMBER OF SEQ ID NOS: 13
;  SOFTWARE: PatentIn version 3.3
; SEQ ID NO 12
;   LENGTH: 157
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-11-108-001-12

  Query Match             96.4%;  Score 777;  DB 11;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 8e-76;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| |||||||||||||||||||||:||||||| |||||||||||| ||||||||
Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
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Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 5
US-11-170-753-1
; Sequence 1, Application US/11170753
; Publication No. US20060013816A1
; GENERAL INFORMATION:
;  APPLICANT: Le, Junming
;  APPLICANT:  Vilcek, Jan
;  APPLICANT:  Daddona, Peter
;  APPLICANT:  Ghrayeb, John
;  APPLICANT:  Knight, David
;  APPLICANT:  Siegel, Scott
;  TITLE OF INVENTION: Methods of Treating Psoriasis Using
;  TITLE OF INVENTION:  Human Anti-TNF Antibodies and Fragments
;  FILE REFERENCE: 0975.1005-050
;  CURRENT APPLICATION NUMBER: US/11/170,753
;  CURRENT FILING DATE:  2005-06-29
;  PRIOR APPLICATION NUMBER: U.S. 09/927,703
;  PRIOR FILING DATE: 2001-08-10
;  PRIOR APPLICATION NUMBER: U.S. 09/756,398
;  PRIOR FILING DATE: 2001-01-08
;  PRIOR APPLICATION NUMBER: U.S. 09/133,119
;  PRIOR FILING DATE: 1998-08-12
;  PRIOR APPLICATION NUMBER: U.S. 08/570,674
;  PRIOR FILING DATE: 1995-12-11
;  PRIOR APPLICATION NUMBER: U.S. 08/324,799
;  PRIOR FILING DATE: 1994-10-18
;  PRIOR APPLICATION NUMBER: U.S. 08/192,102
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: U.S. 08/192,861
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: U.S. 08/192,093
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: U.S.08/010,406
;  PRIOR FILING DATE: 1993-01-29
;  PRIOR APPLICATION NUMBER: U.S. 08/013,413
;  PRIOR FILING DATE: 1993-02-02
;  Remaining Prior Application data removed - See File Wrapper or PALM.
;  NUMBER OF SEQ ID NOS: 30
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 1
;   LENGTH: 157
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-11-170-753-1

  Query Match             96.4%;  Score 777;  DB 11;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 8e-76;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| |||||||||||||||||||||:||||||| |||||||||||| ||||||||
Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||||||||||||||||||||||||
Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 6
US-11-179-359-1
; Sequence 1, Application US/11179359
; Publication No. US20060018905A1
; GENERAL INFORMATION:
;  APPLICANT: Le, Junming
;  APPLICANT:  Vilcek, Jan
;  APPLICANT:  Daddona, Peter
;  APPLICANT:  Ghrayeb, John
;  APPLICANT:  Knight, David
;  APPLICANT:  Siegel, Scott
;  TITLE OF INVENTION: Methods for Treating Systemic Lupus Erythematosus
;  TITLE OF INVENTION:  Using Anti-TNF Antibodies and Fragments Thereof
;  FILE REFERENCE: 0975.1005-054
;  CURRENT APPLICATION NUMBER: US/11/179,359
;  CURRENT FILING DATE:  2005-07-12
;  PRIOR APPLICATION NUMBER: U.S. 09/927,703
;  PRIOR FILING DATE: 2001-08-10
;  PRIOR APPLICATION NUMBER: U.S. 09/756,398
;  PRIOR FILING DATE: 2001-01-08
;  PRIOR APPLICATION NUMBER: U.S. 09/133,119
;  PRIOR FILING DATE: 1998-08-12
;  PRIOR APPLICATION NUMBER: U.S. 08/570,674
;  PRIOR FILING DATE: 1995-12-11
;  PRIOR APPLICATION NUMBER: U.S. 08/324,799
;  PRIOR FILING DATE: 1994-10-18
;  PRIOR APPLICATION NUMBER: U.S. 08/192,102
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: U.S. 08/192,861
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: U.S. 08/192,093
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: U.S.08/010,406
;  PRIOR FILING DATE: 1993-01-29
;  PRIOR APPLICATION NUMBER: U.S. 08/013,413
```

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;  PRIOR FILING DATE: 1993-02-02
;  Remaining Prior Application data removed - See File Wrapper or PALM.
;  NUMBER OF SEQ ID NOS: 30
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 1
;   LENGTH: 157
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-11-179-359-1

  Query Match             96.4%;  Score 777;  DB 11;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 8e-76;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              ||||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| |||||||||||||||||||||||:||||||| |||||||||||| ||||||||
Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||||||||||||||||||||||||
Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 7
US-11-181-030-1
; Sequence 1, Application US/11181030
; Publication No. US20060018906A1
; GENERAL INFORMATION:
;  APPLICANT: Le, Junming
;  APPLICANT:  Vilcek, Jan
;  APPLICANT:  Daddona, Peter
;  APPLICANT:  Ghrayeb, John
;  APPLICANT:  Knight, David
;  APPLICANT:  Siegel, Scott
;  TITLE OF INVENTION: Methods for Treating Sarcoidosis Using
;  TITLE OF INVENTION:  Anti-TNF Antibodies and Fragments Thereof
;  FILE REFERENCE: 0975.1005-055
;  CURRENT APPLICATION NUMBER: US/11/181,030
;  CURRENT FILING DATE:  2005-07-13
;  PRIOR APPLICATION NUMBER: U.S. 09/927,703
;  PRIOR FILING DATE: 2001-08-10
;  PRIOR APPLICATION NUMBER: U.S. 09/756,398
;  PRIOR FILING DATE: 2001-01-08
;  PRIOR APPLICATION NUMBER: U.S. 09/133,119
;  PRIOR FILING DATE: 1998-08-12
;  PRIOR APPLICATION NUMBER: U.S. 08/570,674
;  PRIOR FILING DATE: 1995-12-11
;  PRIOR APPLICATION NUMBER: U.S. 08/324,799
;  PRIOR FILING DATE: 1994-10-18
;  PRIOR APPLICATION NUMBER: U.S. 08/192,102
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: U.S. 08/192,861
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: U.S. 08/192,093
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: U.S.08/010,406
;  PRIOR FILING DATE: 1993-01-29
;  PRIOR APPLICATION NUMBER: U.S. 08/013,413
;  PRIOR FILING DATE: 1993-02-02
;  Remaining Prior Application data removed - See File Wrapper or PALM.
;  NUMBER OF SEQ ID NOS: 30
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 1
;   LENGTH: 157
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-11-181-030-1

  Query Match             96.4%;  Score 777;  DB 11;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 8e-76;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              ||||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| |||||||||||||||||||||||:||||||| |||||||||||| ||||||||
Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||||||||||||||||||||||||
Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 8
US-11-182-033-1
; Sequence 1, Application US/11182033
; Publication No. US20060018907A1
; GENERAL INFORMATION:
;  APPLICANT: Le, Junming
;  APPLICANT:  Vilcek, Jan
;  APPLICANT:  Daddona, Peter
;  APPLICANT:  Ghrayeb, John
;  APPLICANT:  Knight, David
;  APPLICANT:  Siegel, Scott
;  APPLICANT:  Shealy, David
;  TITLE OF INVENTION: Anti-TNF Antibodies and Peptides of Human
;  TITLE OF INVENTION:  Tumor Necrosis Factor
;  FILE REFERENCE: 0975.1005-044
;  CURRENT APPLICATION NUMBER: US/11/182,033
;  CURRENT FILING DATE:  2005-07-14
;  PRIOR APPLICATION NUMBER: US 10/637,759
;  PRIOR FILING DATE: 2003-08-08
;  PRIOR APPLICATION NUMBER: US 09/920,137
;  PRIOR FILING DATE: 2001-08-01
;  PRIOR APPLICATION NUMBER: US 09/927,703
;  PRIOR FILING DATE: 2001-08-10
;  PRIOR APPLICATION NUMBER: US 09/756,398
;  PRIOR FILING DATE: 2001-01-08
;  PRIOR APPLICATION NUMBER: US 60/236,826
;  PRIOR FILING DATE: 2000-09-29
;  PRIOR APPLICATION NUMBER: US 60/223,360
;  PRIOR FILING DATE: 2000-08-07
;  NUMBER OF SEQ ID NOS: 30
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 1
;   LENGTH: 157
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-11-182-033-1

  Query Match             96.4%;  Score 777;  DB 11;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 8e-76;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              ||||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| |||||||||||||||||||||||:||||||| |||||||||||| ||||||||
Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||||||||||||||||||||||||
Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 9
US-11-195-589-1
; Sequence 1, Application US/11195589
```

; Publication No. US20060024310A1
; GENERAL INFORMATION:
; APPLICANT: Le, Junming
; APPLICANT: Vilcek, Jan
; APPLICANT: Daddona, Peter
; APPLICANT: Ghrayeb, John
; APPLICANT: Knight, David
; APPLICANT: Siegel, Scott
; TITLE OF INVENTION: Methods of Treating TNFa-Mediated
; TITLE OF INVENTION: Tissue Injury Using Anti-TNF Antibodies and Peptides
; FILE REFERENCE: 0975.1005-042
; CURRENT APPLICATION NUMBER: US/11/195,589
; CURRENT FILING DATE: 2005-08-02
; PRIOR APPLICATION NUMBER: US 09/927,703
; PRIOR FILING DATE: 2001-08-10
; PRIOR APPLICATION NUMBER: US 09/756,398
; PRIOR FILING DATE: 2001-01-08
; PRIOR APPLICATION NUMBER: US 09/133,119
; PRIOR FILING DATE: 1998-08-12
; PRIOR APPLICATION NUMBER: US 08/570,674
; PRIOR FILING DATE: 1995-12-11
; PRIOR APPLICATION NUMBER: US 08/324,799
; PRIOR FILING DATE: 1994-10-18
; PRIOR APPLICATION NUMBER: US 08/192,102
; PRIOR FILING DATE: 1994-02-04
; PRIOR APPLICATION NUMBER: US 08/192,861
; PRIOR FILING DATE: 1994-02-04
; PRIOR APPLICATION NUMBER: US 08/192,093
; PRIOR FILING DATE: 1994-02-04
; PRIOR APPLICATION NUMBER: US 08/010,406
; PRIOR FILING DATE: 1993-01-29
; PRIOR APPLICATION NUMBER: US 08/013,413
; PRIOR FILING DATE: 02-02-1993
; Remaining Prior Application data removed - See File Wrapper or PALM.
; NUMBER OF SEQ ID NOS: 30
; SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 1
; LENGTH: 157
; TYPE: PRT
; ORGANISM: Homo sapiens
US-11-195-589-1

Query Match 96.4%; Score 777; DB 11; Length 157;
Best Local Similarity 96.2%; Pred. No. 8e-76;
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

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Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              ||||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| |||||||||||||||||||||:||||||| |||||||||||| ||||||||
Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| |||||||||||||||||||||||||||||
Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
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RESULT 10
US-11-082-544-4
; Sequence 4, Application US/11082544
; Publication No. US20050249706A1
; GENERAL INFORMATION:
; APPLICANT: Bermudes, G.
; APPLICANT: King, I.
; APPLICANT: Clairmont, C.
; APPLICANT: Lin, S.
; APPLICANT: Belcourt, M.
; TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR
; TITLE OF INVENTION: TUMOR-TARGETED DELIVERY OF EFFECTOR MOLECULES
; FILE REFERENCE: 8002-059
; CURRENT APPLICATION NUMBER: US/11/082,544
; CURRENT FILING DATE: 2005-03-17
; PRIOR APPLICATION NUMBER: US/09/645,415
; PRIOR FILING DATE: 2000-08-24
; PRIOR APPLICATION NUMBER: 60/157,581
; PRIOR FILING DATE: 1999-10-04
; PRIOR APPLICATION NUMBER: 60/157,637
; PRIOR FILING DATE: 1999-10-04
; NUMBER OF SEQ ID NOS: 61
; SOFTWARE: FastSEQ for Windows Version 3.0
; SEQ ID NO 4
; LENGTH: 158
; TYPE: PRT
; ORGANISM: Homo sapiens
US-11-082-544-4

Query Match 96.4%; Score 777; DB 11; Length 158;
Best Local Similarity 96.2%; Pred. No. 8.1e-76;
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

```
Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              ||||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||
Db          2 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 61

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| |||||||||||||||||||||:||||||| |||||||||||| ||||||||
Db         62 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 121

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| |||||||||||||||||||||||||||||
Db        122 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 158
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RESULT 11
US-11-108-001-2
; Sequence 2, Application US/11108001
; Publication No. US20050265962A1
; GENERAL INFORMATION:
; APPLICANT: Desjarlais, John R.
; APPLICANT: Steed, Paul Michael
; APPLICANT: Zalevsky, Jonathan
; APPLICANT: Szymkowski, David Edmund
; TITLE OF INVENTION: PROTEIN BASED TNF-ALPHA VARIANTS FOR THE TREATMENT OF TNF-ALPHA
; TITLE OF INVENTION: RELATED DISORDERS
; FILE REFERENCE: A-68990-7
; CURRENT APPLICATION NUMBER: US/11/108,001
; CURRENT FILING DATE: 2005-04-14
; PRIOR APPLICATION NUMBER: US 10/963,994
; PRIOR FILING DATE: 2004-10-12
; PRIOR APPLICATION NUMBER: US 09/798,789
; PRIOR FILING DATE: 2001-03-02
; PRIOR APPLICATION NUMBER: US 09/945,150
; PRIOR FILING DATE: 2001-08-31
; PRIOR APPLICATION NUMBER: US 09/981,289
; PRIOR FILING DATE: 2001-10-15
; PRIOR APPLICATION NUMBER: US 10/262,630
; PRIOR FILING DATE: 2002-09-30
; PRIOR APPLICATION NUMBER: US 60/553,908
; PRIOR FILING DATE: 2004-03-17
; PRIOR APPLICATION NUMBER: US 60/510,430
; PRIOR FILING DATE: 2003-10-10
; PRIOR APPLICATION NUMBER: US 60/509,960
; PRIOR FILING DATE: 2003-10-09
; PRIOR APPLICATION NUMBER: US 60/528,275
; PRIOR FILING DATE: 2003-12-08
; PRIOR APPLICATION NUMBER: US 60/523,647
; PRIOR FILING DATE: 2003-11-20
; Remaining Prior Application data removed - See File Wrapper or PALM.
; NUMBER OF SEQ ID NOS: 13
; SOFTWARE: PatentIn version 3.3
; SEQ ID NO 2
; LENGTH: 164
; TYPE: PRT
; ORGANISM: Homo sapiens

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US-11-108-001-2

  Query Match             96.4%;  Score 777;  DB 11;  Length 164;
  Best Local Similarity   96.2%;  Pred. No. 8.5e-76;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| |||||||||||||||||||||||||||||||||||||||||||||||||
Db          8 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 67

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| |||||||||||||||||||||:||||||| |||||||||||| ||||||||
Db         68 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 127

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||||||||||||||||||||||
Db        128 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 164


RESULT 12
US-10-490-953-35
; Sequence 35, Application US/10490953
; Publication No. US20060088908A1
; GENERAL INFORMATION:
;  APPLICANT: SKERRA, ARNE
;  APPLICANT:  SCHLEHUBER, STEFFEN
;  TITLE OF INVENTION: MUTEINS OF HUMAN NEUTROPHIL GELATINASE-ASSOCIATED LIPOCALIN AND
;  TITLE OF INVENTION:  RELATED PROTEINS
;  FILE REFERENCE: 029029-0104
;  CURRENT APPLICATION NUMBER: US/10/490,953
;  CURRENT FILING DATE:  2004-03-29
;  PRIOR APPLICATION NUMBER: PCT/EP02/10490
;  PRIOR FILING DATE: 2002-09-18
;  PRIOR APPLICATION NUMBER: PCT/EP02/04223
;  PRIOR FILING DATE: 2002-04-16
;  PRIOR APPLICATION NUMBER: PCT/EP01/11213
;  PRIOR FILING DATE: 2001-09-27
;  NUMBER OF SEQ ID NOS: 39
;  SOFTWARE: PatentIn version 3.2
; SEQ ID NO 35
;   LENGTH: 170
;   TYPE: PRT
;   ORGANISM: Artificial Sequence
;   FEATURE:
;   OTHER INFORMATION: Description of Artificial Sequence: Synthetic
;   OTHER INFORMATION: amino acid sequence
;   FEATURE:
;   NAME/KEY: CHAIN
;   LOCATION: (1)..(170)
;   OTHER INFORMATION: fusion protein of tumor necrosis factor alpha and
;   OTHER INFORMATION: affinity tag
;   FEATURE:
;   NAME/KEY: MISC_FEATURE
;   LOCATION: (1)..(13)
;   OTHER INFORMATION: Affinity tag Arg-Gly-Ser-His(6)-Gly(3)
;   FEATURE:
;   NAME/KEY: MISC_FEATURE
;   LOCATION: (14)..(170)
;   OTHER INFORMATION: mature tumor necrosis factor alpha
US-10-490-953-35

  Query Match             96.4%;  Score 777;  DB 8;  Length 170;
  Best Local Similarity   96.2%;  Pred. No. 8.9e-76;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| |||||||||||||||||||||||||||||||||||||||||||||||||
Db         14 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 73

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| |||||||||||||||||||||:||||||| |||||||||||| ||||||||
Db         74 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 133

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||||||||||||||||||||||
Db        134 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 170


RESULT 13
US-11-082-544-8
; Sequence 8, Application US/11082544
; Publication No. US20050249706A1
; GENERAL INFORMATION:
;  APPLICANT: Bermudes, G.
;  APPLICANT:  King, I.
;  APPLICANT:  Clairmont, C.
;  APPLICANT:  Lin, S.
;  APPLICANT:  Belcourt, M.
;  TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR
;  TITLE OF INVENTION:  TUMOR-TARGETED DELIVERY OF EFFECTOR MOLECULES
;  FILE REFERENCE: 8002-059
;  CURRENT APPLICATION NUMBER: US/11/082,544
;  CURRENT FILING DATE:  2005-03-17
;  PRIOR APPLICATION NUMBER: US/09/645,415
;  PRIOR FILING DATE: 2000-08-24
;  PRIOR APPLICATION NUMBER: 60/157,581
;  PRIOR FILING DATE: 1999-10-04
;  PRIOR APPLICATION NUMBER: 60/157,637
;  PRIOR FILING DATE: 1999-10-04
;  NUMBER OF SEQ ID NOS: 61
;  SOFTWARE: FastSEQ for Windows Version 3.0
; SEQ ID NO 8
;   LENGTH: 180
;   TYPE: PRT
;   ORGANISM: Artificial Sequence
;   FEATURE:
;   OTHER INFORMATION: Fusion construct
US-11-082-544-8

  Query Match             96.4%;  Score 777;  DB 11;  Length 180;
  Best Local Similarity   96.2%;  Pred. No. 9.5e-76;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| |||||||||||||||||||||||||||||||||||||||||||||||||
Db         24 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 83

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| |||||||||||||||||||||:||||||| |||||||||||| ||||||||
Db         84 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 143

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||||||||||||||||||||||
Db        144 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 180


RESULT 14
US-10-523-328-1
; Sequence 1, Application US/10523328
; Publication No. US20060078944A1
; GENERAL INFORMATION:
;  APPLICANT: Kuai, Jun
;  APPLICANT:  Lin, Lih-Ling
;  APPLICANT:  Wooters, Joseph L.
;  APPLICANT:  Nickbarg, Elliot
;  TITLE OF INVENTION: METHODS AND REAGENTS RELATING TO INFLAMMATION AND APOPTOSIS
;  FILE REFERENCE: WYTH-P01-001
;  CURRENT APPLICATION NUMBER: US/10/523,328
;  CURRENT FILING DATE:  2005-02-01
;  PRIOR APPLICATION NUMBER: 60/400,410
;  PRIOR FILING DATE: 2002-08-01
;  NUMBER OF SEQ ID NOS: 20
;  SOFTWARE: PatentIn version 3.2
; SEQ ID NO 1
;   LENGTH: 233
;   TYPE: PRT
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;   ORGANISM: Homo sapiens
US-10-523-328-1

  Query Match             96.4%;  Score 777;  DB 9;  Length 233;
  Best Local Similarity   96.2%;  Pred. No. 1.3e-75;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||
Db         77 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 136

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| |||||||||||||||||||||||:||||||| |||||||||||| ||||||||
Db        137 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 196

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              |||||||| |||||||||||||||||||||||||||||
Db        197 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 233


RESULT 15
US-11-246-387-8
; Sequence 8, Application US/11246387
; Publication No. US20060078994A1
; GENERAL INFORMATION:
;  APPLICANT: Argos Therapeutics, Inc.
;  APPLICANT:  Kirin Beer Kabushiki Kaisha
;  APPLICANT:  Healey, Don
;  APPLICANT:  Tcherepanova, Irina
;  APPLICANT:  Adams, Melissa
;  APPLICANT:  Hinohara, Atsushi
;  TITLE OF INVENTION: MATURE DENDRITIC CELL COMPOSITIONS AND METHODS FOR CULTURING SAME
;  FILE REFERENCE: MER030
;  CURRENT APPLICATION NUMBER: US/11/246,387
;  CURRENT FILING DATE:  2005-10-07
;  PRIOR APPLICATION NUMBER: US 60/522,512
;  PRIOR FILING DATE: 2004-10-07
;  NUMBER OF SEQ ID NOS: 26
;  SOFTWARE: PatentIn version 3.3
; SEQ ID NO 8
;   LENGTH: 233
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-11-246-387-8

  Query Match             96.4%;  Score 777;  DB 11;  Length 233;
  Best Local Similarity   96.2%;  Pred. No. 1.3e-75;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||
Db         77 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 136

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| |||||||||||||||||||||||:||||||| |||||||||||| ||||||||
Db        137 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 196

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              |||||||| |||||||||||||||||||||||||||||
Db        197 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 233


Search completed: May  5, 2006, 11:28:34
Job time : 10.75 secs
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GenCore version 5.1.7

OM protein - protein search, using sw model

Run on: May 5, 2006, 11:21:07 ; Search time 74.25 Seconds
(without alignments)
929.057 Million cell updates/sec

Title: US-10-668-178-16
Perfect score: 806
Sequence: 1 VRSSSRTPSDAPVAHVVANP.....RPDYLDFAESGQVYFGIIAL 157

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 2443163 seqs, 439378781 residues

Total number of hits satisfying chosen parameters: 2443163

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : A_Geneseq_21:*
1: geneseqp1980s:*
2: geneseqp1990s:*
3: geneseqp2000s:*
4: geneseqp2001s:*
5: geneseqp2002s:*
6: geneseqp2003as:*
7: geneseqp2003bs:*
8: geneseqp2004s:*
9: geneseqp2005s:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	778	96.5	157	2	AAR62465	Aar62465 Tumour ne
2	778	96.5	157	8	ADH10159	Adh10159 Human tum
3	777	96.4	157	1	AAP60524	Aap60524 Sequence
4	777	96.4	157	1	AAP70095	Aap70095 Tumour ne
5	777	96.4	157	1	AAP70144	Aap70144 Amino aci
6	777	96.4	157	2	AAR14270	Aar14270 Human TNF
7	777	96.4	157	2	AAR14112	Aar14112 Neutrophi
8	777	96.4	157	2	AAR27747	Aar27747 Human tum
9	777	96.4	157	2	AAR42679	Aar42679 Human Tum
10	777	96.4	157	2	AAR38069	Aar38069 Human TNF
11	777	96.4	157	2	AAR62463	Aar62463 Tumour ne
12	777	96.4	157	2	AAR60243	Aar60243 Human TNF
13	777	96.4	157	2	AAR57437	Aar57437 Human tum
14	777	96.4	157	2	AAW28530	Aaw28530 Human TNF
15	777	96.4	157	2	AAW40819	Aaw40819 Human tum
16	777	96.4	157	2	ABB08912	Abb08912 Human tum
17	777	96.4	157	2	AAY23242	Aay23242 Human tum
18	777	96.4	157	4	AAG79124	Aag79124 Amino aci
19	777	96.4	157	4	AAE10848	Aae10848 Human tum
20	777	96.4	157	4	AAG67761	Aag67761 Amino aci
21	777	96.4	157	4	AAB74783	Aab74783 Wild type
22	777	96.4	157	5	AAE18373	Aae18373 Human mat
23	777	96.4	157	5	AAM51166	Aam51166 Tumour ne
24	777	96.4	157	5	ABB76561	Abb76561 Human tum
25	777	96.4	157	5	ABG70571	Abg70571 Human tum
26	777	96.4	157	5	ABP54869	Abp54869 Human tum
27	777	96.4	157	5	AAB47940	Aab47940 Human tum
28	777	96.4	157	5	ABP54787	Abp54787 Human tum
29	777	96.4	157	5	ABG76348	Abg76348 Human ful
30	777	96.4	157	6	ABU09888	Abu09888 Human tum
31	777	96.4	157	6	ABG72947	Abg72947 Human tum
32	777	96.4	157	6	ABG75765	Abg75765 Human TNF
33	777	96.4	157	6	ABG75772	Abg75772 Human TNF
34	777	96.4	157	6	ABU63586	Abu63586 Human tum
35	777	96.4	157	7	ADC46568	Adc46568 Human tum
36	777	96.4	157	7	ADC61354	Adc61354 Human TNF
37	777	96.4	157	7	ADC81608	Adc81608 Human tum
38	777	96.4	157	7	ADD44654	Add44654 Human tum
39	777	96.4	157	7	ADD89878	Add89878 Human tum
40	777	96.4	157	7	ADE06773	Ade06773 Human ant
41	777	96.4	157	7	ABW02400	Abw02400 Human tum
42	777	96.4	157	7	ADE96348	Ade96348 Human tum
43	777	96.4	157	7	ABW02035	Abw02035 Human tum
44	777	96.4	157	7	ADF91146	Adf91146 Human tum
45	777	96.4	157	7	ADG27428	Adg27428 Human tum

ALIGNMENTS

RESULT 1
AAR62465
ID AAR62465 standard; protein; 157 AA.
XX
AC AAR62465;
XX
DT 25-MAR-2003 (revised)
DT 05-JUN-1995 (first entry)
XX
DE Tumour necrosis factor-alpha mutein K65A.
XX
KW Human; tumour necrosis factor; TNF; TNF-a; expression; mutein; mutation;
KW receptor; affinity; therapeutic; diagnostic; cancer therapy; cancer;
KW obesity; septic shock; meningitis.
XX
OS Synthetic.
XX
FH Key Location/Qualifiers
FT Misc-difference 65
FT /label= Lys to Ala
XX
PN EP619372-A1.
XX
PD 12-OCT-1994.
XX
PF 17-MAR-1994; 94EP-00104154.
XX
PR 29-MAR-1993; 93EP-00810224.
XX
PA (HOFF) HOFFMANN LA ROCHE & CO AG F.
XX
PI Banner D, Lesslauer W, Loetscher H, Stueber D;
XX
DR WPI; 1994-311810/39.
DR N-PSDB; AAQ87684.
XX
PT New human TNF-a muteins with higher affinity for p75-TNFR - useful e.g.
PT for cancer therapy, treatment of obesity and toxic shock.
XX
PS Claim 4; Page 15; 53pp; English.
XX
CC The amino acid sequence of the mutated human tumour necrosis factor alpha
CC (TNF-a). The mutein differs from the wild type at position 65 with a
CC change from a Lys residue to a Ala residue. The gene encoding the protein
CC is placed in the expression plasmid pDS56/RBSII and called
CC pDS56/RBSII,SphI-TNFa(K65A). The expression of the wild type or mutein
CC proteins is regulated by the lac repressor present on the plasmid pREP4.

```
CC   The gene encoding the protein is mutated at specific sites resulting in a
CC   series of mutated proteins (AAR62464-83 and AAR63093-103). The biological
CC   activities of TNF are mediated via specific receptors of mol. wt. 55 and
CC   75 kDa called p55-TNF-R and p75-TNF-R respectively. The mutated proteins
CC   presented have a higher affinity for the human p75-TNF receptor than for
CC   the p55-TNF receptor. The mutated proteins can be used in a variety of
CC   therapeutic or diagnostic applications including cancer therapy,
CC   treatment of obesity, septic shock or bacterial meningitis. (Updated on
CC   25-MAR-2003 to correct PN field.)
XX
SQ   Sequence 157 AA;

  Query Match             96.5%;  Score 778;  DB 2;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 1.4e-71;
  Matches  151;  Conservative    2;  Mismatches    4;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| |||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              ||||:|||||||||||||||||||||:||||||| |||||||||||| ||||||||
Db         61 QVLFAGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||||||||||||||||||||||||
Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 2
ADH10159
ID   ADH10159 standard; protein; 157 AA.
XX
AC   ADH10159;
XX
DT   11-MAR-2004  (first entry)
XX
DE   Human tumour necrosis factor variant protein.
XX
KW   TNF; tumour necrosis factor; polyethylene glycol; cytostatic; cancer;
KW   human; variant.
XX
OS   Homo sapiens.
XX
FH   Key             Location/Qualifiers
FT   Misc-difference 11
FT                   /label= Asp, Ala, Arg, Ser, Thr, Pro, Met or Leu
FT   Misc-difference 65
FT                   /label= Asp, Ala, Arg, Ser, Thr, Pro, Met or Leu
FT   Misc-difference 90
FT                   /label= Asp, Ala, Arg, Ser, Thr, Pro, Met or Leu
FT   Misc-difference 98
FT                   /label= Asp, Ala, Arg, Ser, Thr, Pro, Met or Leu
FT   Misc-difference 112
FT                   /label= Asp, Ala, Arg, Ser, Thr, Pro, Met or Leu
FT   Misc-difference 128
FT                   /label= Asp, Ala, Arg, Ser, Thr, Pro, Met or Leu
XX
PN   EP1354893-A2.
XX
PD   22-OCT-2003.
XX
PF   30-JAN-2003; 2003EP-00250587.
XX
PR   25-MAR-2002; 2002JP-00083509.
PR   26-JUN-2002; 2002JP-00185387.
XX
PA   (HAYB ) HAYASHIBARA SEIBUTSU KAGAKU.
PA   (MAYU/) MAYUMI T.
PA   (TSUT/) TSUTSUMI Y.
PA   (NAKA/) NAKAGAWA S.
XX
PI   Mayumi T,  Tsutsumi Y,  Nakagawa S,  Ikegami H;
XX
DR   WPI; 2004-063952/07.
XX
PT   A physiologically active complex which comprises a protein part with
PT   tumor necrosis factor activity and a high molecular part has higher
PT   stability and retention in living bodies and is useful to treat disease,
PT   particularly cancer.
XX
PS   Claim 2; SEQ ID NO 2; 18pp; English.
XX
CC   The present sequence represents a physiologically active complex which
CC   comprises a proteinaceous part with tumour necrosis factor (TNF) activity
CC   and a high molecular part bound artificially to the N-terminus of the
CC   proteinaceous part. The proteinaceous part comprises the sequence
CC   selected from ADH10159 and the molecular part has a molecular weight of
CC   500-5000 Da and is a homopolymer of polyethylene glycol or a copolymer of
CC   ethylene glycol and its derivatives. The invention is used to treat
CC   susceptive disease, particularly cancer. The complex has a higher
CC   stability and longer retention time in living bodies than intact tumour
CC   necrosis factor. The present sequence represents a human TNF variant
CC   protein.
XX
SQ   Sequence 157 AA;

  Query Match             96.5%;  Score 778;  DB 8;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 1.4e-71;
  Matches  151;  Conservative    0;  Mismatches    6;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDXPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| |||||||||||||||||||||| ||||||| |||||||||||| ||||||||
Db         61 QVLFXGQGCPSTHVLLTHTISRIAVSYQTXVNLLSAIXSPCQRETPEGAEAXPWYEPIYL 120

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||||||||||||||||||||||||
Db        121 GGVFQLEXGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 3
AAP60524
ID   AAP60524 standard; protein; 157 AA.
XX
AC   AAP60524;
XX
DT   25-MAR-2003  (revised)
DT   07-AUG-1991  (first entry)
XX
DE   Sequence of tumour necrosis factor (TNF).
XX
KW   Anticancer agent; antitumour; antimalarial; tumour necrosis factor.
XX
OS   Oryctolagus cuniculus.
XX
PN   WO8603751-A.
XX
PD   03-JUL-1986.
XX
PF   19-DEC-1985;   85WO-EP000721.
XX
PR   21-DEC-1984;   84US-00684595.
PR   09-OCT-1985;   85US-00785847.
PR   09-OCT-1986;   86WO-US002133.
XX
PA   (BIOJ ) BIOGEN NV.
PA   (FIER/) FIERS W C.
PA   (ALLE/) ALLET B.
PA   (BIOJ ) BIOGEN INC.
XX
PI   Fiers WC,  Fransen LM,  Tavernier JHL,  Marmenout ALM,  Vanderheyd J;
PI   Allet B;
```

XX
DR WPI; 1986-182891/28.
DR N-PSDB; AAN60442.
XX
PT Mammalian tumour necrosis factors - produced by culturing pro-karyotic
PT hosts transformed with recombinant DNA.
XX
PS Claim 11; Page 66; 93pp; English.
XX
CC TNF-like polypeptides and compsns. are produced by the fermentation of
CC host cells transformed with at least one DNA sequence which codes for a
CC mammalian TNF-like polypeptide operatively linked to an expression
CC control sequence in the transformed host. (Updated on 25-MAR-2003 to
CC correct PA field.)
XX
SQ Sequence 157 AA;

Query Match 96.4%; Score 777; DB 1; Length 157;
Best Local Similarity 96.2%; Pred. No. 1.8e-71;
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

Qy 1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
Db 1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy 61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
Db 61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy 121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
Db 121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157

RESULT 4
AAP70095
ID AAP70095 standard; protein; 157 AA.
XX
AC AAP70095;
XX
DT 04-APR-1991 (first entry)
XX
DE Tumour necrosis factor.
XX
KW Plasmid; tumour necrosis factor; antitumour agent.
XX
OS Escherichia coli.
XX
PN EP220482-A.
XX
PD 06-MAY-1987.
XX
PF 19-SEP-1986; 86EP-00112941.
XX
PR 30-SEP-1985; 85JP-00217740.
XX
PA (SUNR) SUNTORY LTD.
XX
PI Oshima T, Tanaka S, Matsukura S;
XX
DR WPI; 1987-124161/18.
XX
PT New plasmid for efficient tumour necrosis factor prodn. - comprises
PT plasmid with DNA fragment having phage-gene derived promoter region and E
PT coli derived transcription termination sequence.
XX
PS Claim 6; Page 17-18; 31pp; English.
XX
CC Tumour necrosis factor can be expressed using a plasmid comprising a
CC phage gene-derived promoter region upstream of the TNF structural gene
CC and an E.coli trp a gene terminator joined immediately downstream of a
CC base sequence encoding the termination of translation of the structural
CC gene. The plasmid is capable of efficient expression of TNF on a large
CC scale and with high purity. The transformants may achieve a TNF activity
CC 40-300 times as great as with prior transformants. TNF may comprise at
CC least 40% of total cell protein. The plasmid lacks a pBR322 derived
CC repressor of primer gene. TNF is an antitumour agent
XX
SQ Sequence 157 AA;

Query Match 96.4%; Score 777; DB 1; Length 157;
Best Local Similarity 96.2%; Pred. No. 1.8e-71;
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

Qy 1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
Db 1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy 61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
Db 61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy 121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
Db 121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157

RESULT 5
AAP70144
ID AAP70144 standard; protein; 157 AA.
XX
AC AAP70144;
XX
DT 03-OCT-2002 (revised)
DT 13-MAY-1991 (first entry)
XX
DE Amino acid sequence of mature tumour necrosis factor (TNF).
XX
KW Tumour necrosis factor analogue; lymphokine; anti-tumour.
XX
OS Homo sapiens.
XX
PN EP220966-A.
XX
PD 06-MAY-1987.
XX
PF 30-OCT-1986; 86EP-00308484.
XX
PR 30-OCT-1985; 85US-00792815.
PR 22-MAY-1986; 86US-00866213.
XX
PA (CETU) CETUS CORP.
XX
PI Lin LSL, Dorin G, Yamamoto R, Hanisch WH, Thomson JW, Wolfe SN;
XX
DR WPI; 1987-124486/18.
XX
PT Purified recombinant tumour necrosis factor compsn. - obtd. by using a
PT hydrophobic matrix to retain the factor followed by chromatographic
PT elution.
XX
PS Disclosure; Fig 3; 25pp; English.
XX
CC Specific examples of TNF analogues include N-terminally deleted species
CC of the protein, including those having deletions of the N-terminal
CC 1,2,3,4,5,6,7,8,9,10,14, and 31 AA's of the SQ in AAP70144. Muteins
CC lacking up to and including the first ten AA's at the N-terminus have
CC been found to have comparable or greater specific activities as compared
CC to the TNF of the SQ shown in AAP70144. Other muteins of TNF covered by
CC the method of the invention include species of TNF in which any or all of
CC the cysteine residues have been converted to serine or other neutral AA's
CC for example, glycine or alanine. In general, neutral AA replacements of
CC the cysteine at position 69 result in active TNF proteins. It appears
CC that the cysteine at position 101 is also dispensable. (Updated on 03-OCT
CC -2002 to add missing OS field.)
XX

```
SQ   Sequence 157 AA;

  Query Match             96.4%;  Score 777;  DB 1;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 1.8e-71;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| |||||||||||||||||||||||:||||||| ||||||||||||| ||||||||
Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||||||||||||||||||||||||
Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 6
AAR14270
ID   AAR14270 standard; peptide; 157 AA.
XX
AC   AAR14270;
XX
DT   09-JAN-1992  (first entry)
XX
DE   Human TNF.
XX
KW   Tumour necrosis factor; cytotoxic; metastasis.
XX
OS   Homo sapiens.
XX
FH   Key             Location/Qualifiers
FT   Peptide         1. .18
FT                   /label= #301
FT   Peptide         13. .26
FT                   /label= #306
FT   Peptide         22. .40
FT                   /label= #307
FT   Peptide         43. .58
FT                   /label= #302
FT                   /note= " claim 2 "
FT   Peptide         54. .68
FT                   /label= #308
FT                   /note= " claim 3"
FT   Peptide         63. .83
FT                   /label= #304
FT   Peptide         70. .80
FT                   /note= " claim 7 "
FT   Peptide         73. .94
FT                   /label= #309
FT                   /note= " claim 5 "
FT   Peptide         79. .89
FT                   /label= #323
FT   Peptide         81. .94
FT                   /note= " claim 6 "
FT   Peptide         94. .109
FT                   /label= #303
FT   Peptide         111. .120
FT                   /label= #275
FT   Peptide         132. .150
FT                   /label= #305
FT                   /note= " claim 4 "
XX
PN   WO9114702-A.
XX
PD   03-OCT-1991.
XX
PF   19-MAR-1990;   90AU-00009156.
XX
PR   19-MAR-1990;   90AU-00009156.
PR   22-NOV-1990;   90AU-00003477.
XX
PA   (PEPT-) PEPTIDE TECHN LTD.
XX
PI   Rathjen D,  Aston R;
XX
DR   WPI; 1991-310534/42.
XX
PT   New cytotoxic and/or proliferation-inhibiting polypeptide fragments -
PT   useful in treatment of tumours with reduced side effects.
XX
PS   Claim 1; Fig 1; 35pp; English.
XX
CC   The peptide fragments indicated in the feature table have cytotoxic
CC   and/or inhibition of proliferation effects on tumour cells. The peptides
CC   may be co-administered with whole TNF alpha or with a cyto-toxic drug
XX
SQ   Sequence 157 AA;

  Query Match             96.4%;  Score 777;  DB 2;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 1.8e-71;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| |||||||||||||||||||||||:||||||| ||||||||||||| ||||||||
Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||||||||||||||||||||||||
Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 7
AAR14112
ID   AAR14112 standard; peptide; 157 AA.
XX
AC   AAR14112;
XX
DT   11-DEC-1991  (first entry)
XX
DE   Neutrophil stimulating peptide.
XX
KW   hTNF; AIDS; cancer; inflammatory syndromes; rheumatoid arthritis;
KW   adult respiratory distress syndrome; human tumour necrosis factor.
XX
OS   Synthetic.
XX
FH   Key             Location/Qualifiers
FT   Peptide         1. .18
FT                   /label= peptide 301
FT   Peptide         13. .26
FT                   /label= peptide 306
FT   Peptide         22. .40
FT                   /label= peptide 307
FT   Peptide         43. .58
FT                   /label= peptide 302
FT   Peptide         54. .68
FT                   /label= peptide 308
FT                   /note= "neutrophil stimulating activity and selective
FT                   effects on neutrophil degranulation"
FT   Peptide         63. .83
FT                   /label= peptide 304
FT                   /note= "neutrophil stimulating activity"
FT   Peptide         70. .80
FT                   /label= peptide 395
FT                   /note= "neutrophil stimulating activity"
FT   Peptide         73. .94
FT                   /label= peptide 309
FT                   /note= "neutrophil stimulating activity"
FT   Peptide         76. .84
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FT                   /label= peptide 393
FT   Peptide         79. .89
FT                   /label= peptide 323
FT   Peptide         81. .94
FT                   /label= peptide 394
FT   Peptide         84. .94
FT                   /label= peptide 396
FT   Peptide         94. .109
FT                   /label= peptide 303
FT   Peptide         111. .120
FT                   /label= peptide 275
FT   Peptide         132. .150
FT                   /label= peptide 305
XX
PN   WO9113908-A.
XX
PD   19-SEP-1991.
XX
PF   12-MAR-1990;   90AU-00009065.
XX
PR   12-MAR-1990;   90AU-00009065.
XX
PA   (PEPT-) PEPTIDE TECHN LTD.
XX
PI   Rathjen DA,  Ferrante A;
XX
DR   WPI; 1991-295580/40.
XX
PT   New neutrophil stimulating peptide(s) derived from human TNF - useful for
PT   treating depressed neutrophil function in e.g. AIDS and cancer, and
PT   inflammatory syndrome in e.g. rheumatoid arthritis.
XX
PS   Disclosure; Fig 1; 27pp; English.
XX
CC   The amino acid sequence codes for human tumour necrosis factor. Peptides
CC   derived from this sequence have neutrophil stimulating activity. The
CC   peptides were synthesised using the Fmoc-polyamide method of solid
CC   peptide synthesis. Treatment with the peptides can be used to restore
CC   depressed or aberrant neutrophil activity without causing the side
CC   effects associated with the therapeutic use of the whole TNF molecule.
CC   Such peptides can be used in the treatment of individuals suffering from
CC   AIDS, cancer or inflammatory syndromes e.g. rheumatoid arthritis or adult
CC   respiratory distress syndrome
XX
SQ   Sequence 157 AA;

  Query Match             96.4%;  Score 777;  DB 2;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 1.8e-71;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| |||||||||||||||||||||:||||||| ||||||||||||| ||||||||
Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||||||||||||||||||||||||
Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 8
AAR27747
ID   AAR27747 standard; protein; 157 AA.
XX
AC   AAR27747;
XX
DT   25-MAR-2003  (revised)
DT   03-MAR-1993  (first entry)
XX
DE   Human tumour necrosis factor alpha.
XX
KW   hTNF; monoclonal antibody; sepsis syndrome, cachexia, microbial;
KW   infection; rheumatoid arthritis; inflammation.
XX
OS   Homo sapiens.
XX
FH   Key             Location/Qualifiers
FT   Region          1. .20
FT                   /note= "putative receptor binding portion"
FT   Region          11. .13
FT                   /note= "putative receptor binding portion"
FT   Region          37. .42
FT                   /note= "putative receptor binding portion"
FT   Region          49. .57
FT                   /note= "putative receptor binding portion"
FT   Region          59. .80
FT                   /note= "epitope for Ab binding"
FT   Region          87. .108
FT                   /note= "epitope for Ab binding"
FT   Region          155. .157
FT                   /note= "putative receptor binding portion"
XX
PN   WO9216553-A1.
XX
PD   01-OCT-1992.
XX
PF   18-MAR-1992;   92WO-US002190.
XX
PR   18-MAR-1991;   91US-00670827.
XX
PA   (UYNY ) UNIV NEW YORK STATE.
PA   (CENZ ) CENTOCOR INC.
XX
PI   Le J,  Vilcek J,  Daddona PE,  Ghrayeb J,  Knight DM,  Siegel SA;
XX
DR   WPI; 1992-349155/42.
XX
PT   Monoclonal and chimeric antibodies to human TNF - useful for treating
PT   sepsis syndrome, cachexia, microbial infections, rheumatoid arthritis,
PT   inflammation, etc.
XX
PS   Claim 22; Page 77; 105pp; English.
XX
CC   Anti-TNF antibodies were prepd. which bound to an epitope of at least 5
CC   amino acids of residues 87-108 or both of residues 59-80 and 87-108 of
CC   human tumour necrosis factor alpha, but do not bind known or putative
CC   receptor binding portions of TNF, such as those shown in the features
CC   table. The antibodies may be prepd. by hybridomas or recombinantly and
CC   may be used for in vivo treatment and diagnosis of human pathologies
CC   associated with TNF e.g. sepsis syndrome, cachexia, circulatory collapse
CC   and shock resulting from acute or chronic bacterial infection, acute and
CC   parasitic or infectious processes, including bacterial, viral and fungal
CC   infections, acute and chronic immune and autoimmune pathologies such as
CC   sarcoidosis and Crohn's disease, vascular inflammatory pathologies such
CC   as disseminated intravascular coagulation, graft vs. host disease,
CC   Kawasaki's disease and malignant tumours. The antibodies may be used in
CC   combination with TNF therapy, e.g. cancer therapy to remove the undesired
CC   side effects. They may also be used to remove TNF from fluids, tissues or
CC   cells, to detect or quantitate TNF and for blocking TNF activity in vivo,
CC   in situ and in vitro. (Updated on 25-MAR-2003 to correct PN field.)
CC   (Updated on 25-MAR-2003 to correct PA field.)
XX
SQ   Sequence 157 AA;

  Query Match             96.4%;  Score 777;  DB 2;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 1.8e-71;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
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              |||| |||||||||||||||||||||||:||||||| ||||||||||||| ||||||||
Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||||||||||||||||||||||||
Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 9
AAR42679
ID   AAR42679 standard; protein; 157 AA.
XX
AC   AAR42679;
XX
DT   25-MAR-2003  (revised)
DT   19-APR-1994  (first entry)
XX
DE   Human Tumour Necrosis Factor alpha.
XX
KW   Plasmid pDS56/RBSII,SphI-TNF-alpha; mutein; inflammation; obesity;
KW   septic shock; treatment; mutagenic PCR; cytokine.
XX
OS   Homo sapiens.
XX
PN   EP563714-A2.
XX
PD   06-OCT-1993.
XX
PF   20-MAR-1993;   93EP-00104591.
XX
PR   02-APR-1992;   92EP-00810249.
XX
PA   (HOFF ) HOFFMANN LA ROCHE & CO AG F.
XX
PI   Lesslauer W,  Loetscher H,  Stueber D;
XX
DR   WPI; 1993-313109/40.
DR   N-PSDB; AAQ49223.
XX
PT   New human Tumour Necrosis Factor mutein(s) - have amino acid change at
PT   position 86, for selective binding affinity to the P55-TNF-Receptor.
XX
PS   Disclosure; Fig 1b; 29pp; English.
XX
CC   The human TNF-alpha expression plasmid pDS56/RBSII,SphI-TNF-alpha was
CC   used as the source of TNF-alpha gene for preparing the various TNF-alpha
CC   muteins of the invention. Mutagenic PCR was used on the wild-type
CC   template to introduce amino acid substitutions at sites affecting binding
CC   specificity. The muteins retain binding activity to the human p55-TNF-
CC   Receptor but do not bind to the human p75-TNF- Receptor. Consequently,
CC   the muteins have lower systemic toxicity and only elicit some of the
CC   activities of wild-type TNF-a. (Updated on 25-MAR-2003 to correct PN
CC   field.)
XX
SQ   Sequence 157 AA;

  Query Match             96.4%;  Score 777;  DB 2;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 1.8e-71;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| |||||||||||||||||||||:||||||| ||||||||||||| ||||||||
Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||||||||||||||||||||||||
Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 10
AAR38069
ID   AAR38069 standard; protein; 157 AA.
XX
AC   AAR38069;
XX
DT   14-OCT-1993  (first entry)
XX
DE   Human TNF-alpha.
XX
KW   Withdrawal symptom; tumour necrosis factor; narcotic; nicotine; morphine;
KW   thymosin; alcohol.
XX
OS   Homo sapiens.
XX
PN   JP05117161-A.
XX
PD   14-MAY-1993.
XX
PF   23-OCT-1991;   91JP-00337489.
XX
PR   23-OCT-1991;   91JP-00337489.
XX
PA   (SOMA/) SOMA G.
PA   (MIZU/) MIZUNO D.
XX
DR   WPI; 1993-191442/24.
XX
PT   Drugs for treating alcohol, morphine narcotics or nicotine withdrawal
PT   symptoms - contg. tumour necrosis factor-alpha, thymosin tumour necrosis
PT   factor fused cpd. or murine tumour necrosis factor-alpha prepd. from
PT   macrophage of human or animal.
XX
PS   Disclosure; Page 2-3; 5pp; Japanese.
XX
CC   Drugs acting on withdrawal symptoms contain TNF, esp. TNF-alpha (AAR38069
CC   and AAR38077), rTNF-S-AM1 (AAR38070), rTNF-S-AM2 (AAR38071), thymosin-
CC   beta4-TNF fused cpd. (AAR38072-76). The drugs are effective in treatment
CC   of withdrawal symptoms caused by habitual use of alcohol, morphine
CC   narcotics or nicotine in humans or animals (e.g. swine, dog, cat,
CC   chicken). The drugs may be administered as TNF at a dose of 10ng-10mg
CC   orally or 5ng-1mg i.v. or 50ng-50mg percutaneously a day for a human
CC   adult. In animals, the drugs may be administered according to the human
CC   dosage (1/60 per kg body wt.)
XX
SQ   Sequence 157 AA;

  Query Match             96.4%;  Score 777;  DB 2;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 1.8e-71;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| |||||||||||||||||||||:||||||| ||||||||||||| ||||||||
Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||||||||||||||||||||||||
Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 11
AAR62463
ID   AAR62463 standard; protein; 157 AA.
XX
AC   AAR62463;
XX
DT   25-MAR-2003  (revised)
DT   02-JUN-1995  (first entry)
XX
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DE   Tumour necrosis factor-alpha protein.
XX
KW   Human; tumour necrosis factor; TNF; TNF-a; expression; mutein; mutation;
KW   receptor; affinity; therapeutic; diagnostic; cancer therapy; cancer;
KW   obesity; septic shock; meningitis.
XX
OS   Homo sapiens.
XX
PN   EP619372-A1.
XX
PD   12-OCT-1994.
XX
PF   17-MAR-1994;   94EP-00104154.
XX
PR   29-MAR-1993;   93EP-00810224.
XX
PA   (HOFF ) HOFFMANN LA ROCHE & CO AG F.
XX
PI   Banner D,  Lesslauer W,  Loetscher H,  Stueber D;
XX
DR   WPI; 1994-311810/39.
DR   N-PSDB; AAQ73431.
XX
PT   New human TNF-a muteins with higher affinity for p75-TNFR - useful e.g.
PT   for cancer therapy, treatment of obesity and toxic shock.
XX
PS   Disclosure; Page 28-31; 53pp; English.
XX
CC   The amino acid sequence of the human wild type tumour necrosis factor
CC   alpha (TNF-a). The gene encoding the protein is placed in the expression
CC   plasmid pDS56/RBSII and called pDS56/RBSII,SphI-TNFa. The expression of
CC   the wild type or mutein proteins is regulated by the lac repressor
CC   present on the plasmid pREP4. The gene encoding the protein is mutated at
CC   specific sites resulting in series of mutated proteins (AAR62464-83 and
CC   AAR63093-103). The biological activities of TNF are mediated via specific
CC   receptors of mol. wt. 55 and 75 kDa called p55-TNF-R and p75-TNF-R
CC   respectively. The mutated protein presented have a higher affinity for
CC   the human p75-TNF receptor than for the p55-TNF receptor. The mutated
CC   proteins can be used in a variety of therapeutic or diagnostic
CC   applications including cancer therapy, treatment of obesity, septic shock
CC   or bacterial meningitis. (Updated on 25-MAR-2003 to correct PN field.)
XX
SQ   Sequence 157 AA;

  Query Match             96.4%;  Score 777;  DB 2;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 1.8e-71;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| |||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| |||||||||||||||||||||:||||||| |||||||||||||| ||||||||
Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| |||||||||||||||||||||||||||||
Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 12
AAR60243
ID   AAR60243 standard; peptide; 157 AA.
XX
AC   AAR60243;
XX
DT   25-MAR-2003  (revised)
DT   16-MAR-1995  (first entry)
XX
DE   Human TNF-alpha.
XX
KW   TNF-alpha; tumor necrosis factor-alpha; tip peptide; mutein; cancer;
KW   sepsis; inflammation; cytokine; metastasis; lectin; adhesion;
KW   mutagenesis.
XX
OS   Homo sapiens.
XX
FH   Key             Location/Qualifiers
FT   Misc-difference 1. .8
FT                   /note= "in TNF muteins, residues 1-8 are replaced by a
FT                   peptide within the region spanning aa 5-30 of laminin"
FT   Misc-difference 101
FT                   /note= "in TNF muteins, residue 101 is Ser"
FT   Misc-difference 102
FT                   /note= "in TNF muteins, residue 102 is Arg or deleted"
FT   Misc-difference 103
FT                   /note= "in TNF muteins, residue 103 is Trp"
FT   Misc-difference 105
FT                   /note= "in TNF muteins, residue 105 is Pro or Ile or
FT                   residue 105 is Ile and residue 44 is Cys"
FT   Misc-difference 106
FT                   /note= "in TNF muteins, residue 106 is Ser, or residue
FT                   106 is Ser and residue 131 is Cys"
FT   Misc-difference 108
FT                   /note= "In TNF muteins, residue 108 is Phe"
FT   Misc-difference 110
FT                   /note= "In TNF muteins, residue 110 is Lys"
FT   Misc-difference 111. .112
FT                   /note= "In TNF muteins, residues 111-112 are deleted, or
FT                   residue 111 is deleted or Met, or residue 111 is deleted
FT                   and residue 109 is Gln and residue 120 is His"
FT   Misc-difference 115. .116
FT                   /note= "In TNF muteins, residues 115-116 are Ile-Lys"
FT   Misc-difference 115
FT                   /note= "In TNF muteins, residue 115 is Ile or Cys"
FT   Misc-difference 116
FT                   /note= "In TNF muteins, residue 116 is Lys, His or Val"
XX
PN   WO9418325-A1.
XX
PD   18-AUG-1994.
XX
PF   02-FEB-1994;   94WO-EP000286.
XX
PR   03-FEB-1993;   93EP-00400262.
XX
PA   (INNO-) INNOGENETICS NV SA.
XX
PI   Lucas R,  De Baetselier P,  Fransen L,  Sablon E;
XX
DR   WPI; 1994-279746/34.
XX
PT   New tumour necrosis factor -alpha muteins, antibodies and antisense
PT   peptide(s) - used in the treatment of diseases and conditions associated
PT   with the in vivo activities of TNF-A eg cancer, sepsis, inflammation,
PT   etc.
XX
PS   Disclosure; Page 10; 132pp; English.
XX
CC   TNF-alpha muteins were constructed in the tip region (given in AAR60231)
CC   of human TNF-alpha. The mutations resulted in: modulation of lectin-like
CC   activity; reduced toxic activity; modulation of inflammatory activity;
CC   modulated adhesion molecule inducing capacity; reduced metastasis
CC   promoting activity; and/or increased half-life. Muteins of the mouse TNF
CC   (given in AAR60244) may also be produced. (Updated on 25-MAR-2003 to
CC   correct PN field.)
XX
SQ   Sequence 157 AA;

  Query Match             96.4%;  Score 777;  DB 2;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 1.8e-71;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| |||||||||||||||||||||||||||||||||||||||||||||||||
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```
Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| |||||||||||||||||||||||:||||||| |||||||||||| ||||||||
Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||||||||||||||||||||||
Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 13
AAR57437
ID   AAR57437 standard; protein; 157 AA.
XX
AC   AAR57437;
XX
DT   25-MAR-2003  (revised)
DT   13-MAR-1995  (first entry)
XX
DE   Human tumour necrosis factor (wild-type).
XX
KW   Tumour necrosis factor; TNF; mutein; variant; antitumour; toxicity;
KW   haemorrhagic necrosis; antiviral; parasite; malaria.
XX
OS   Homo sapiens.
XX
FH   Key             Location/Qualifiers
FT   Misc-difference 1. .7
FT                   /note= "one or more of the first 7 N-terminal amino acids
FT                   may be deleted"
FT   Misc-difference 4
FT                   /note= "Ser pref. replaced by Arg"
FT   Misc-difference 5
FT                   /note= "Ser pref. replaced by Arg"
FT   Misc-difference 6
FT                   /note= "Arg pref. replaced by Ala"
FT   Misc-difference 7
FT                   /note= "Thr pref. replaced by His or Lys"
FT   Misc-difference 8
FT                   /note= "Pro pref. replaced by Arg"
FT   Misc-difference 9
FT                   /note= "Ser pref. replaced by Lys"
FT   Misc-difference 10
FT                   /note= "Asp pref. replaced by Arg"
FT   Misc-difference 38
FT                   /note= "Ala pref. replaced by Asp"
FT   Misc-difference 39
FT                   /note= "Asn pref. replaced by Asp, Lys or Val"
FT   Misc-difference 40
FT                   /note= "Gly pref. replaced by Asp, Lys or Val"
FT   Misc-difference 41
FT                   /note= "Val pref. replaced by Ser"
FT   Misc-difference 52
FT                   /note= "Ser pref. replaced by Ile, Glu or Lys"
FT   Misc-difference 53
FT                   /note= "Glu pref. replaced by Lys or Leu"
FT   Misc-difference 54
FT                   /note= "Gly pref. replaced by Asp or Val"
FT   Misc-difference 56
FT                   /note= "Tyr pref. replaced by Phe or Glu"
FT   Misc-difference 85
FT                   /note= "Val pref. replaced by Glu or Arg"
FT   Misc-difference 86
FT                   /note= "Ser pref. replaced by Leu, Lys, Glu or Asp"
FT   Misc-difference 87
FT                   /note= "Tyr pref. replaced by Glu or Arg"
FT   Misc-difference 88
FT                   /note= "Gln pref. replaced by Glu"
FT   Misc-difference 127
FT                   /note= "Glu pref. replaced by Ala, Val or Lys"
FT   Misc-difference 128
FT                   /note= "Lys pref. replaced by Ala, Val or Glu"
FT   Misc-difference 129
FT                   /note= "Gly pref. replaced by Glu, Lys or Val"
FT   Misc-difference 156
FT                   /note= "Ala pref. replaced by Asp"
FT   Misc-difference 157
FT                   /note= "Leu pref. replaced by Phe"
XX
PN   DE4404124-A1.
XX
PD   11-AUG-1994.
XX
PF   09-FEB-1994;   94DE-04404124.
XX
PR   09-FEB-1993;   93KR-00001751.
XX
PA   (HANI-) HANIL SYNTHETIC FIBER CO LTD.
XX
PI   Shin H,  Shin N,  Lee I,  Kang S;
XX
DR   WPI; 1994-250457/31.
DR   N-PSDB; AAQ67089.
XX
PT   New tumour necrosis factor muteins and related DNA - also vectors and
PT   transformed cells, with increased antitumour activity and lower toxicity
PT   than wild type protein.
XX
PS   Claim 1; Page 20; 23pp; German.
XX
CC   TNF muteins are claimed, in which at least one amino acid at positions 4-
CC   10, 38-41, 52-54, 56, 85-88, 127-129, 156 or 157 is exchanged for a
CC   different amino acid. Opt. one or more of the first 7 N-terminal amino
CC   acids is deleted. TNF causes haemorrhagic necrosis of tumours; has anti-
CC   viral activity and inactivates some species of malarial parasites. The
CC   muteins have increased antitumour activity and lower toxicity than wild-
CC   type protein. (Updated on 25-MAR-2003 to correct PN field.)
XX
SQ   Sequence 157 AA;

  Query Match             96.4%;  Score 777;  DB 2;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 1.8e-71;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| |||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| |||||||||||||||||||||||:||||||| |||||||||||| ||||||||
Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||||||||||||||||||||||
Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 14
AAW28530
ID   AAW28530 standard; protein; 157 AA.
XX
AC   AAW28530;
XX
DT   25-MAR-2003  (revised)
DT   11-JAN-1998  (first entry)
XX
DE   Human TNF.
XX
KW   TNF; tumour necrosis factor; Crohn's disease; cA2 antibody.
XX
OS   Homo sapiens.
XX
FH   Key             Location/Qualifiers
FT   Region          11. .13
FT                   /label= epitope
```

```
FT   Region          37. .42
FT                   /label= epitope
FT   Region          49. .57
FT                   /label= epitope
FT   Region          59. .80
FT                   /label= epitope
FT   Region          87. .108
FT                   /label= epitope
FT   Region          155. .157
FT                   /label= epitope
XX
PN   US5656272-A.
XX
PD   12-AUG-1997.
XX
PF   04-FEB-1994;   94US-00192102.
XX
PR   18-MAR-1991;   91US-00670827.
PR   18-MAR-1992;   92US-00853606.
PR   11-SEP-1992;   92US-00943852.
PR   26-JAN-1993;   93US-00010406.
PR   02-FEB-1993;   93US-00013413.
XX
PA   (CENZ ) CENTOCOR INC.
PA   (UYNY-) UNIV NEW YORK MEDICAL CENT.
XX
PI   Dadonna P,  Le J,  Ghrayeb J,  Knight D,  Siegel SA,  Vilcek J;
XX
DR   WPI; 1997-414547/38.
XX
PT   Treatment of Crohn's disease - by administering humanised cA2 antibody
PT   specific for tumour necrosis factor.
XX
PS   Claim 4 and 6; Fig 13; 87pp; English.
XX
CC   An anti-TNF chimeric antibody may be administered for treating TNF-alpha
CC   mediated Crohn's disease in a human. The anti-TNF chimeric antibody
CC   competitively inhibits binding of TNF to monoclonal antibody cA2. The
CC   anti-TNF antibody does not bind to one or more epitopes in amino acids 11
CC   -13, 37-42, 49-57 or 155-157 of hTNF, but does bind to one or more
CC   epitopes included in amino acids between 87-108 or both 87-108 and 59-80
CC   of hTNF. (Updated on 25-MAR-2003 to correct PF field.)
XX
SQ   Sequence 157 AA;

  Query Match             96.4%;  Score 777;  DB 2;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 1.8e-71;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| |||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| |||||||||||||||||||||:||||||| |||||||||||||| ||||||||
Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||||||||||||||||||||||||
Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 15
AAW40819
ID   AAW40819 standard; peptide; 157 AA.
XX
AC   AAW40819;
XX
DT   02-APR-1998  (first entry)
XX
DE   Human tumour necrosis factor.
XX
KW   Tumour necrosis factor; human; hTNF; rheumatoid arthritis; malignancy;
KW   anti-TNF chimeric antibody; inhibitor; therapy; diagnosis; infection;
KW   chronic inflammatory disease; autoimmune disease;
KW   neurodegenerative disease.
XX
OS   Homo sapiens.
XX
FH   Key             Location/Qualifiers
FT   Misc-difference 59. .80
FT                   /note= "epitope recognised by antibody of the invention"
FT   Misc-difference 87. .108
FT                   /note= "epitope recognised by antibody of the invention"
XX
PN   US5698195-A.
XX
PD   16-DEC-1997.
XX
PF   18-OCT-1994;   94US-00324799.
XX
PR   18-MAR-1991;   91US-00670827.
PR   18-MAR-1992;   92US-00853606.
PR   11-SEP-1992;   92US-00943852.
PR   29-JAN-1993;   93US-00010406.
PR   02-FEB-1993;   93US-00013413.
PR   04-FEB-1994;   94US-00192061.
PR   04-FEB-1994;   94US-00192093.
PR   04-FEB-1994;   94US-00192102.
XX
PA   (CENZ ) CENTOCOR INC.
PA   (UYNY-) UNIV NEW YORK MEDICAL CENT.
XX
PI   Siegel S,  Knight D,  Vilcek J,  Ghrayeb J,  Le J,  Daddona P;
XX
DR   WPI; 1998-051431/05.
XX
PT   Treatment of rheumatoid arthritis - with chimeric antibody directed
PT   against tumour necrosis factor.
XX
PS   Claim 3; Col 97-100; 93pp; English.
XX
CC   This sequence represents the human tumour necrosis factor (hTNF).
CC   Epitopes of this sequence are recognised by the antibody used in the
CC   method of the invention. The method of the invention is for treating
CC   rheumatoid arthritis in a human, and comprises administering to the human
CC   an effective TNF-inhibiting amount of an anti-TNF chimeric antibody (Ab),
CC   where the anti-TNF chimeric Ab comprises a non-human variable region or a
CC   TNF antigen binding portion of the variable region, and a human constant
CC   region. The method can be used for in vitro, in situ and/or in vivo
CC   diagnosis and/or treatment of animal cells, tissues or pathologies
CC   associated with the presence of TNF. The Abs used in the method can also
CC   be used for removing TNF from a solution or cells, inhibiting one or more
CC   biological activities of TNF in vitro, in situ or in vitro. Such removal
CC   can include treatment methods of the invention for alleviating symptoms
CC   or pathologies involving TNF, such as bacterial, viral or parasitic
CC   infections, chronic inflammatory diseases, autoimmune diseases,
CC   malignancies and/or neurodegenerative diseases
XX
SQ   Sequence 157 AA;

  Query Match             96.4%;  Score 777;  DB 2;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 1.8e-71;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| |||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| |||||||||||||||||||||:||||||| |||||||||||||| ||||||||
Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||||||||||||||||||||||||
Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
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Search completed: May 5, 2006, 11:26:32
Job time : 77.25 secs

GenCore version 5.1.7

OM protein - protein search, using sw model

Run on: May 5, 2006, 11:21:42 ; Search time 18 Seconds
(without alignments)
839.224 Million cell updates/sec

Title: US-10-668-178-16
Perfect score: 806
Sequence: 1 VRSSSRTPSDAPVAHVVANP.....RPDYLDFAESGQVYFGIIAL 157

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 283416 seqs, 96216763 residues

Total number of hits satisfying chosen parameters: 283416

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : PIR_80:*
1: pir1:*
2: pir2:*
3: pir3:*
4: pir4:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	777	96.4	233	1	QWHUN	tumor necrosis fac
2	770	95.5	233	1	S22052	tumor necrosis fac
3	710	88.1	233	2	S11688	tumor necrosis fac
4	695	86.2	234	1	JQ1344	tumor necrosis fac
5	675.5	83.8	232	1	S12606	tumor necrosis fac
6	637.5	79.1	234	1	A25451	tumor necrosis fac
7	632.5	78.5	235	1	QWMSN	tumor necrosis fac
8	629	78.0	185	2	S52715	tumor necrosis fac
9	629	78.0	233	1	S24642	tumor necrosis fac
10	627	77.8	234	1	JH0529	tumor necrosis fac
11	626.5	77.7	235	2	I54490	tumor necrosis fac
12	622.5	77.2	193	2	S06192	tumor necrosis fac
13	617.5	76.6	235	2	JU0029	tumor necrosis fac
14	257.5	31.9	197	1	JH0309	tumor necrosis fac
15	252	31.3	204	1	S24641	lymphotoxin - bovi
16	246.5	30.6	204	1	S17289	tumor necrosis fac
17	240	29.8	202	1	JN0869	tumor necrosis fac
18	238.5	29.6	202	1	B27303	tumor necrosis fac
19	214.5	26.6	205	1	QWHUX	lymphotoxin alpha
20	166	20.6	244	2	A46066	lymphotoxin beta -
21	165.5	20.5	278	2	A49266	fas ligand - rat
22	159.5	19.8	279	2	A53062	Fas ligand - mouse
23	151	18.7	281	2	I38707	Fas ligand - human
24	142	17.6	306	2	I49139	lymphotoxin-beta -
25	128	15.9	260	2	S21738	CD40 ligand - mous
26	121	15.0	261	2	I53476	CD40 ligand - huma
27	118	14.6	261	2	S53090	CD40 ligand - bovi
28	81.5	10.1	887	2	AD2009	hypothetical prote
29	78.5	9.7	724	2	A53371	glutamate-ammonia
30	78	9.7	834	1	C64779	probable copper-tr
31	78	9.7	834	2	E85546	probable ATPase yb
32	78	9.7	834	2	A90696	Cu(I)-translocatio
33	77	9.6	265	2	B84108	hypothetical prote
34	77	9.6	4077	2	T17484	hypothetical prote
35	76	9.4	286	2	S56436	hypothetical 29.7K
36	76	9.4	466	2	AC3206	two component sens
37	76	9.4	675	2	E75393	hypothetical prote
38	74.5	9.2	213	2	AF2283	hypothetical prote
39	74	9.2	286	2	E91277	probable oxidoredu
40	74	9.2	286	2	E86118	probable oxidoredu
41	73.5	9.1	288	2	A83443	probable transcrip
42	73.5	9.1	563	2	S77533	DNA mismatch repai
43	73.5	9.1	799	2	C82929	ATP synthase alpha
44	73	9.1	230	2	A95354	probable GntR-fami
45	73	9.1	430	2	AG2256	dihydrolipoamide S

ALIGNMENTS

RESULT 1
QWHUN
tumor necrosis factor alpha precursor [validated] - human
N;Alternate names: cachectin; TNFA
C;Species: Homo sapiens (man)
C;Date: 28-Aug-1985 #sequence_revision 28-Aug-1985 #text_change 09-Jul-2004
C;Accession: A93585; S36153; A93351; A44189; B61478; I53311; S62610; I54522; A01646; B2
R;Nedwin, G.E.; Naylor, S.L.; Sakaguchi, A.Y.; Smith, D.; Jarrett-Nedwin, J.; Pennica,
Nucleic Acids Res. 13, 6361-6373, 1985
A;Title: Human lymphotoxin and tumor necrosis factor genes: structure, homology and chr
A;Reference number: A93585; MUID:86016093; PMID:2995927
A;Accession: A93585
A;Molecule type: DNA
A;Residues: 1-233 <NED>
A;Cross-references: UNIPROT:P01375; UNIPARC:UPI000000D745; GB:X02910; GB:X02159; NID:g3
R;Iris, F.J.M.; Bougueleret, L.; Prieur, S.; Caterina, D.; Primas, G.; Perrot, V.; Jurk
Nature Genet. 3, 137-145, 1993
A;Title: Dense Alu clustering and a potential new member of the NFkappaB family within
A;Reference number: S36152; MUID:93272029; PMID:8499947
A;Accession: S36153
A;Status: nucleic acid sequence not shown; translation not shown
A;Molecule type: DNA
A;Residues: 1-233 <IRI>
A;Cross-references: UNIPARC:UPI000000D745; EMBL:Z15026; NID:g37211; PIDN:CAA78745.1; PI
A;Note: the nucleotide sequence was submitted to the EMBL Data Library, August 1992
R;Pennica, D.; Nedwin, G.E.; Hayflick, J.S.; Seeburg, P.H.; Derynck, R.; Palladino, M.A
Nature 312, 724-729, 1984
A;Title: Human tumour necrosis factor: precursor structure, expression and homology to
A;Reference number: A93351; MUID:85086244; PMID:6392892
A;Accession: A93351
A;Molecule type: mRNA
A;Residues: 1-233 <PEN>
A;Cross-references: UNIPARC:UPI000000D745; GB:X02910; GB:X02159; NID:g37209; PIDN:CAA26
A;Note: this protein was isolated from the monocyte-like cell line HL-60 from a promyel
R;Wang, A.M.; Creasey, A.A.; Ladner, M.B.; Lin, L.S.; Strickler, J.; Van Arsdell, J.N.;
Science 228, 149-154, 1985
A;Title: Molecular cloning of the complementary DNA for human tumor necrosis factor.
A;Reference number: A44189; MUID:85142190; PMID:3856324
A;Accession: A44189
A;Molecule type: mRNA
A;Residues: 1-62,'S',64-233 <WAN>
A;Cross-references: UNIPARC:UPI000002FB8A; GB:M10988; NID:g339737; PIDN:AAA61198.1; PID
R;Fukuda, S.; Ando, S.; Sanou, O.; Taniai, M.; Fujii, M.; Masaki, N.; Nakamura, K.I.; A
Lymphokine Res. 7, 175-185, 1988
A;Title: Simultaneous production of natural human tumor necrosis factor-alpha, -beta an
A;Reference number: A61478; MUID:88301617; PMID:2841543
A;Accession: B61478
A;Molecule type: protein
A;Residues: 83-102;109-119;121-128,'X',130-131;142-144,'X',146,'XXX',150-152;159-174;18
A;Cross-references: UNIPARC:UPI00001735C7; UNIPARC:UPI00001735C8; UNIPARC:UPI00001735C9
R;Marmenout, A.; Fransen, L.; Tavernier, J.; Van Der Heyden, J.; Tizard, R.; Kawashima,
Eur. J. Biochem. 152, 515-522, 1985

A;Title: Molecular cloning and expression of human tumor necrosis factor and comparison
A;Reference number: I53311; MUID:86030296; PMID:3932069
A;Accession: I53311
A;Status: translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-233 <MAR>
A;Cross-references: UNIPARC:UPI000000D745; GB:M26331; NID:g339763; PIDN:AAA36758.1; PID:
A;Experimental source: U-937 cells
R;Takakura-Yamamoto, R.; Yamamoto, S.; Fukuda, S.; Kurimoto, M.
Eur. J. Biochem. 235, 431-437, 1996
A;Title: O-Glycosylated species of natural human tumor-necrosis factor-alpha.
A;Reference number: S62610; MUID:96202967; PMID:8631363
A;Accession: S62610
A;Molecule type: protein
A;Residues: 77-99 <TAK>
A;Cross-references: UNIPARC:UPI00001735CD
R;D'Alfonso, S.; Richiardi, P.M.
Immunogenetics 39, 150-154, 1994
A;Title: A polymorphic variation in a putative regulation box of the TNFA promoter regic
A;Reference number: I54522; MUID:94102809; PMID:7903959
A;Accession: I54522
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-8 <DAL>
A;Cross-references: UNIPARC:UPI00001735CE; GB:S68530; NID:g544751
R;Stevenson, F.T.; Bursten, S.L.; Locksley, R.M.; Lovett, D.H.
J. Exp. Med. 176, 1053-1062, 1992
A;Title: Myristyl acylation of the tumor necrosis factor alpha precursor on specific lys
A;Reference number: A59163; MUID:93018820; PMID:1402651
A;Contents: annotation; identification of myristylated lysines
R;Aggarwal, B.B.; Kohr, W.J.; Hass, P.E.; Moffat, B.; Spencer, S.A.; Henzel, W.J.; Bring
J. Biol. Chem. 260, 2345-2354, 1985
A;Title: Human tumor necrosis factor. Production, purification, and characterization.
A;Reference number: A92511; MUID:85130974; PMID:3871770
A;Contents: annotation; disulfide bond
C;Comment: Secreted from mitogen-activated macrophages within 4-24 hours after induction
out detriment to normal cells. It can also act synergistically with interferon gamma to
C;Comment: TNF-alpha and -beta (lymphotoxin) are the products of different genes closely
ut are produced by different cell types and have different induction kinetics.
C;Genetics:
A;Gene: GDB:TNF; TNFA
A;Cross-references: GDB:120441; OMIM:191160
A;Map position: 6p21.3-6p21.3
A;Introns: 62/3; 78/1; 94/1
C;Complex: homotrimer
C;Superfamily: tumor necrosis factor
C;Keywords: cytokine; cytotoxin; glycoprotein; homotrimer; lipoprotein; lymphokine; macr
F;1-76/Domain: propeptide #status predicted <PRO>
F;77-233/Product: tumor necrosis factor #status experimental <MAT>
F;19,20/Binding site: myristate (Lys) (covalent) #status experimental
F;81/Binding site: carbohydrate (Ser) (covalent) (partial) #status experimental
F;145-177/Disulfide bonds: #status experimental

Query Match 96.4%; Score 777; DB 1; Length 233;
Best Local Similarity 96.2%; Pred. No. 1.1e-71;
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

```
Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||
Db         77 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 136

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              ||||:|||||||||||||||||||||:||||||| ||||||||||||| ||||||||
Db        137 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 196

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| |||||||||||||||||||||||||||||
Db        197 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 233
```

RESULT 2
S22052
tumor necrosis factor alpha precursor - baboon
C;Species: Papio sp. (baboon)
C;Date: 10-Sep-1999 #sequence_revision 10-Sep-1999 #text_change 09-Jul-2004
C;Accession: S22052
R;Sanjanwala, M.; Edwards, A.
submitted to the EMBL Data Library, September 1991
A;Description: Baboon Tumor Necrosis Factor Derived from Sequences of Genomic DNA.
A;Reference number: S22052
A;Accession: S22052
A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-233 <SAN>
A;Cross-references: UNIPROT:P33620; UNIPARC:UPI00001370C4; EMBL:X62141; NID:g38159; PIDN
C;Genetics:
A;Introns: 62/3; 78/1; 94/1
C;Superfamily: tumor necrosis factor
C;Keywords: glycoprotein; lipoprotein; myristylation; transmembrane protein
F;19,20/Binding site: myristate (Lys) (covalent) #status predicted
F;81/Binding site: carbohydrate (Ser) (covalent) #status predicted
F;145-177/Disulfide bonds: #status predicted

Query Match 95.5%; Score 770; DB 1; Length 233;
Best Local Similarity 95.5%; Pred. No. 5.6e-71;
Matches 150; Conservative 1; Mismatches 6; Indels 0; Gaps 0;

```
Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||
Db         77 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 136

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| ||||||||||||||||||||||||:||||||| ||||||||||||| ||||||||
Db        137 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 196

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| |||||||||||||||||||||||||||||
Db        197 GGVFQLEKGDRLSAEINLPDYLDFAESGQVYFGIIAL 233
```

RESULT 3
S11688
tumor necrosis factor alpha precursor - cat
C;Species: Felis silvestris catus (domestic cat)
C;Date: 21-Nov-1993 #sequence_revision 10-Nov-1995 #text_change 09-Jul-2004
C;Accession: S11688
R;McGraw, R.A.; Coffee, B.W.; Otto, C.M.; Drews, R.T.; Rawlings, C.A.
Nucleic Acids Res. 18, 5563, 1990
A;Title: Gene sequence of feline tumor necrosis factor alpha.
A;Reference number: S11688; MUID:91016860; PMID:2216740
A;Accession: S11688
A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-233 <MCG>
A;Cross-references: UNIPROT:P19101; UNIPARC:UPI00001370BE; EMBL:X54000; NID:g1084; PIDN:
C;Genetics:
A;Introns: 62/3; 78/1; 94/1
C;Superfamily: tumor necrosis factor
C;Keywords: glycoprotein; lipoprotein; myristylation; transmembrane protein
F;19,20/Binding site: myristate (Lys) (covalent) #status predicted
F;81/Binding site: carbohydrate (Ser) (covalent) #status predicted
F;145-177/Disulfide bonds: #status predicted

Query Match 88.1%; Score 710; DB 2; Length 233;
Best Local Similarity 88.5%; Pred. No. 7.4e-65;
Matches 139; Conservative 6; Mismatches 12; Indels 0; Gaps 0;

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Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              :|||||||| |||||||||:|||||| |:||||||||||||| |||| |||:|||||||
Db         77 LRSSSRTPSDKPVAHVVANPEAEGQLQRLSRRANALLANGVELTDNQLKVPSDGLYLIYS 136

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              ||||:||||||||||||| ||| |||||||:||||||| ||||||||||||| ||||||||
Db        137 QVLFTGQGCPSTHVLLTHAISRFAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 196

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
```

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                ||||||| ||||| ||| | ||||||||||||||||||
Db        197 GGVFQLEKGDRLSTEINLPAYLDFAESGQVYFGIIAL 233


RESULT 4
JQ1344
tumor necrosis factor alpha precursor - horse
N;Alternate names: cachectin; TNF alpha
C;Species: Equus caballus (domestic horse)
C;Date: 10-Sep-1999 #sequence_revision 10-Sep-1999 #text_change 09-Jul-2004
C;Accession: JQ1344
R;Su, X.; Morris, D.D.; McGraw, R.A.
Gene 107, 319-321, 1991
A;Title: Cloning and characterization of gene TNF alpha encoding equine tumor necrosis f
A;Reference number: JQ1344; MUID:92084125; PMID:1748301
A;Accession: JQ1344
A;Molecule type: DNA
A;Residues: 1-234 <SUX>
A;Cross-references: UNIPROT:P29553; UNIPARC:UPI00001370BF; GB:M64087; NID:g164244; PIDN:
C;Comment: This protein is an important proximal mediator of endotoxemia.
C;Genetics:
A;Gene: TNF-alpha
A;Introns: 62/3; 79/1; 95/1
C;Superfamily: tumor necrosis factor
C;Keywords: cytokine; cytotoxin; glycoprotein; lipoprotein; lymphokine; macrophage; memb
F;78-234/Product: tumor necrosis factor alpha #status predicted <TUM>
F;19,20/Binding site: myristate (Lys) (covalent) #status predicted
F;82/Binding site: carbohydrate (Ser) (covalent) #status predicted
F;146-178/Disulfide bonds: #status predicted

  Query Match             86.2%;  Score 695;  DB 1;  Length 234;
  Best Local Similarity   85.4%;  Pred. No. 2.5e-63;
  Matches  134;  Conservative   11;  Mismatches   12;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              :|||||||||| ||||||||||||||||||: ||||||||||:| ||||||| :|||||||
Db         78 LRSSSRTPSDKPVAHVVANPQAEGQLQWLSGRANALLANGVKLTDNQLVVPLDGLYLIYS 137

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| |||||||||||||||:|||| ::||||||| |||  |:|| ||| ||||||||
Db        138 QVLFKGQGCPSTHVLLTHTISRLAVSYPSKVNLLSAIKSPCHTESPEQAEAKPWYEPIYL 197

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||:|||||||:|:||||||||||||||||
Db        198 GGVFQLEKGDQLSAEINQPNYLDFAESGQVYFGIIAL 234


RESULT 5
S12606
tumor necrosis factor alpha precursor - pig
C;Species: Sus scrofa domestica (domestic pig)
C;Date: 10-Sep-1999 #sequence_revision 10-Sep-1999 #text_change 09-Jul-2004
C;Accession: S12606; S17290; S18965; I46659
R;Drews, R.T.; Coffee, B.W.; Prestwood, A.K.; McGraw, R.A.
Nucleic Acids Res. 18, 5564, 1990
A;Title: Gene sequence of porcine tumor necrosis factor alpha.
A;Reference number: S12606; MUID:91016861; PMID:2216741
A;Accession: S12606
A;Molecule type: DNA
A;Residues: 1-232 <DRE>
A;Cross-references: UNIPROT:P23563; UNIPARC:UPI00001370C6; EMBL:X54001; NID:g2135; PIDN:
R;Kuhnert, P.; Wuethrich, C.; Peterhans, E.; Pauli, U.
Gene 102, 171-178, 1991
A;Title: The porcine tumor necrosis factor-encoding genes: sequence and comparative anal
A;Reference number: S17289; MUID:91340150; PMID:1874444
A;Accession: S17290
A;Molecule type: DNA
A;Residues: 1-232 <KUH>
A;Cross-references: UNIPARC:UPI00001370C6; EMBL:X54859; NID:g2132; PIDN:CAA38639.1; PID:
A;Note: the authors translated the codon GAG for residue 202 as Gly
R;Choi, C.S.; Molitor, T.W.; Lin, G.F.; Murtaugh, M.P.
submitted to the EMBL Data Library, January 1991
A;Description: Complete nucleotide sequence of a cDNA encoding porcine tumor necrosis fa
A;Reference number: S18965
A;Accession: S18965
A;Molecule type: mRNA
A;Residues: 1-232 <CHO>
A;Cross-references: UNIPARC:UPI00001370C6; EMBL:X57321; NID:g2137; PIDN:CAA40591.1; PID
R;Pauli, U.; Beutler, B.; Peterhans, E.
Gene 81, 185-191, 1989
A;Title: Porcine tumor necrosis factor alpha: Cloning with the polymerase chain reactio
A;Reference number: I46659; MUID:90034181; PMID:2478420
A;Accession: I46659
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: mRNA
A;Residues: 44-232 <PAU>
A;Cross-references: UNIPARC:UPI000016C6F7; GB:M29079; NID:g164694; PIDN:AAA31128.1; PID
C;Genetics:
A;Introns: 62/3; 78/1; 93/1
C;Superfamily: tumor necrosis factor
C;Keywords: cytokine; cytotoxin; glycoprotein; lipoprotein; lymphokine; macrophage; myr
F;1-77/Domain: propeptide #status predicted <PRO>
F;78-232/Product: tumor necrosis factor alpha #status predicted <MAT>
F;19,20/Binding site: myristate (Lys) (covalent) #status predicted
F;81/Binding site: carbohydrate (Ser) (covalent) #status predicted
F;144-176/Disulfide bonds: #status predicted

  Query Match             83.8%;  Score 675.5;  DB 1;  Length 232;
  Best Local Similarity   85.4%;  Pred. No. 2.4e-61;
  Matches  134;  Conservative   10;  Mismatches   12;  Indels    1;  Gaps    1;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              :||||:| || |||||||| :||||||| :  |||||||||:|:||||||::|||||||
Db         77 LRSSSQT-SDKPVAHVVANVKAEGQLQWQSGYANALLANGVKLKDNQLVVPTDGLYLIYS 135

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| |||||||:| |||||||||||||:|||||| |||||||||||| ||||||||
Db        136 QVLFRGQGCPSTNVFLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 195

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              |||||||  |||||||| ||||||||||||||||||||
Db        196 GGVFQLEKDDRLSAEINLPDYLDFAESGQVYFGIIAL 232


RESULT 6
A25451
tumor necrosis factor alpha precursor - rabbit
N;Alternate names: cachectin; TNF alpha
C;Species: Oryctolagus cuniculus (domestic rabbit)
C;Date: 10-Sep-1999 #sequence_revision 10-Sep-1999 #text_change 09-Jul-2004
C;Accession: A25454; A25451; JS0727
R;Ito, H.; Yamamoto, S.; Kuroda, S.; Sakamoto, H.; Kajihara, J.; Kiyota, T.; Hayashi, H
DNA 5, 149-156, 1986
A;Title: Molecular cloning and expression in Escherichia coli of the cDNA coding for ra
A;Reference number: A25454; MUID:86219711; PMID:3519137
A;Accession: A25454
A;Molecule type: mRNA
A;Residues: 1-234 <ITO>
A;Cross-references: UNIPROT:P04924; UNIPARC:UPI000016C5C2; GB:M12845; NID:g165759; PIDN
R;Ito, H.; Shirai, T.; Yamamoto, S.; Akira, M.; Kawahara, S.; Todd, C.W.; Wallace, R.B.
DNA 5, 157-165, 1986
A;Title: Molecular cloning of the gene encoding rabbit tumor necrosis factor.
A;Reference number: A25451; MUID:86219712; PMID:3519138
A;Accession: A25451
A;Molecule type: DNA
A;Residues: 1-234 <IT2>
A;Cross-references: UNIPARC:UPI000016C5C2
A;Note: this sequence differs from that shown in having a Gln inserted between residues
R;Shakhov, A.N.; Kuprash, D.V.; Azizov, M.M.; Jongeneel, C.V.; Nedospasov, S.A.
Gene 95, 215-221, 1990
A;Title: Structural analysis of the rabbit TNF locus, containing the genes encoding TNF
A;Reference number: JH0309; MUID:91065534; PMID:2249779
A;Accession: JS0727
A;Status: nucleic acid sequence not shown; translation not shown
A;Molecule type: DNA
A;Residues: 1-62,'Q',63-234 <SHA>
```

```
A;Cross-references: UNIPARC:UPI00001370C7; GB:M60340; GB:M35326; NID:g165754; PIDN:AAA31
C;Genetics:
A;Introns: 62/3; 80/1; 96/1
C;Superfamily: tumor necrosis factor
C;Keywords: cytokine; cytotoxin; glycoprotein; lipoprotein; lymphokine; macrophage; memb
F;1-81/Domain: propeptide #status predicted <PRO>
F;82-234/Product: tumor necrosis factor #status predicted <MAT>
F;19,20/Binding site: myristate (Lys) (covalent) #status predicted
F;83/Binding site: carbohydrate (Ser) (covalent) #status predicted
F;147-178/Disulfide bonds: #status predicted

  Query Match             79.1%;  Score 637.5;  DB 1;  Length 234;
  Best Local Similarity   78.3%;  Pred. No. 1.9e-57;
  Matches  123;  Conservative   16;  Mismatches   17;  Indels    1;  Gaps    1;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              :||:||  || |:|||||||| |||||||::||||||||::| |||||||::|||||||
Db         79 LRSASRALSDKPLAHVVANPQVEGQLQWLSQRANALLANGMKLTDNQLVVPADGLYLIYS 138

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              ||||||||| | :||||||:|| |||| :||||||| ||| ||||| || : |||||||
Db        139 QVLFSGQGCRS-YVLLTHTVSRFAVSYPNKVNLLSAIKSPCHRETPEEAEPMAWYEPIYL 197

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||| |:|:|:||| ||||||||||||
Db        198 GGVFQLEKGDRLSTEVNQPEYLDLAESGQVYFGIIAL 234


RESULT 7
QWMSN
tumor necrosis factor alpha precursor - mouse
N;Alternate names: cachectin; TNF alpha
C;Species: Mus musculus (house mouse)
C;Date: 31-Mar-1988 #sequence_revision 31-Mar-1988 #text_change 09-Jul-2004
C;Accession: A22908; S03791; A27303; A25164; A23127; A34251; I59058; A36696
R;Shirai, T.; Shimizu, N.; Shiojiri, S.; Horiguchi, S.; Ito, H.
DNA 7, 193-201, 1988
A;Title: Cloning and expression in Escherichia coli of the gene for mouse tumor necrosis
A;Reference number: A22908; MUID:88224564; PMID:2836146
A;Accession: A22908
A;Molecule type: DNA
A;Residues: 1-235 <SHI>
A;Cross-references: UNIPROT:P06804; UNIPARC:UPI0000022334; GB:M20155
R;Shakhov, A.N.; Nedospasov, S.A.
Bioorg. Khim. 13, 701-705, 1987
A;Title: Molecular cloning of the genes coding for tumor necrosis factors: complete nucl
A;Reference number: S03791; MUID:87298639; PMID:3040015
A;Accession: S03791
A;Molecule type: DNA
A;Residues: 1-235 <SHA>
A;Cross-references: UNIPARC:UPI0000022334; GB:M38296; NID:g202086; PIDN:AAA40459.1; PID:
A;Note: article in Russian with English abstract
R;Semon, D.; Kawashima, E.; Jongeneel, C.V.; Shakhov, A.N.; Nedospasov, S.A.
Nucleic Acids Res. 15, 9083-9084, 1987
A;Title: Nucleotide sequence of the murine TNF locus, including the TNF-alpha-(tumor nec
A;Reference number: A93679; MUID:88067722; PMID:3684584
A;Accession: A27303
A;Molecule type: DNA
A;Residues: 1-235 <SEM>
A;Cross-references: UNIPARC:UPI0000022334; GB:Y00467; NID:g54830; PIDN:CAA68530.1; PID:g
R;Pennica, D.; Hayflick, J.S.; Bringman, T.S.; Palladino, M.A.; Goeddel, D.V.
Proc. Natl. Acad. Sci. U.S.A. 82, 6060-6064, 1985
A;Title: Cloning and expression in Escherichia coli of the cDNA for murine tumor necrosi
A;Reference number: A25164; MUID:85298296; PMID:3898078
A;Accession: A25164
A;Molecule type: mRNA
A;Residues: 1-235 <PEN>
A;Cross-references: UNIPARC:UPI0000022334; GB:M11731; NID:g202084; PIDN:AAA40458.1; PID:
R;Fransen, L.; Muller, R.; Marmenout, A.; Tavernier, J.; van der Heyden, J.; Kawashima,
Nucleic Acids Res. 13, 4417-4429, 1985
A;Title: Molecular cloning of mouse tumour necrosis factor cDNA and its eukaryotic expre
A;Reference number: A23127; MUID:85242112; PMID:2989794
A;Accession: A23127
A;Molecule type: mRNA
A;Residues: 1-235 <FRA>
A;Cross-references: UNIPARC:UPI0000022334; GB:X02611; NID:g54844; PIDN:CAA26457.1; PID:
R;Cseh, K.; Beutler, B.
J. Biol. Chem. 264, 16256-16260, 1989
A;Title: Alternative cleavage of the cachectin/tumor necrosis factor propeptide results
A;Reference number: A34251; MUID:89380231; PMID:2777790
A;Accession: A34251
A;Molecule type: protein
A;Residues: 70-87 <CSE>
A;Cross-references: UNIPARC:UPI00001735CF
R;Caput, D.; Beutler, B.; Hartog, K.; Thayer, R.; Brown-Shimer, S.L.; Cerami, A.
Proc. Natl. Acad. Sci. U.S.A. 83, 1670-1674, 1986
A;Title: Identification of a common nucleotide sequence in the 3'-untranslated region of
A;Reference number: I59058; MUID:86149365; PMID:2419912
A;Accession: I59058
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: mRNA
A;Residues: 1-230,'R',232-235 <RES>
A;Cross-references: UNIPARC:UPI000016D086; GB:M13049; NID:g202082; PIDN:AAA40457.1; PID
R;Sherry, B.; Jue, D.M.; Zentella, A.; Cerami, A.
Biochem. Biophys. Res. Commun. 173, 1072-1078, 1990
A;Title: Characterization of high molecular weight glycosylated forms of murine tumor ne
A;Reference number: A36696; MUID:91097531; PMID:2268312
A;Accession: A36696
A;Molecule type: protein
A;Residues: 80-85,'X',87-99 <SHE>
A;Cross-references: UNIPARC:UPI00001735D0
C;Genetics:
A;Introns: 62/3; 81/1; 97/1
A;Note: the first intron occurs in the 5'-untranslated region
C;Superfamily: tumor necrosis factor
C;Keywords: cytokine; cytotoxin; glycoprotein; lipoprotein; lymphokine; macrophage; memb
F;80-235/Product: tumor necrosis factor #status experimental <MAT>
F;20/Binding site: myristate (Lys) (covalent) #status predicted
F;84/Binding site: carbohydrate (Ser) (covalent) #status predicted
F;86/Binding site: carbohydrate (Asn) (covalent) #status predicted
F;148-179/Disulfide bonds: #status predicted

  Query Match             78.5%;  Score 632.5;  DB 1;  Length 235;
  Best Local Similarity   75.2%;  Pred. No. 6.1e-57;
  Matches  118;  Conservative   21;  Mismatches   17;  Indels    1;  Gaps    1;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              :||||:  || |||||||| | | ||:||::||||||||::|:|||||||::||||:||
Db         80 LRSSSQNSSDKPVAHVVANHQVEEQLEWLSQRANALLANGMDLKDNQLVVPADGLYLVYS 139

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| |||||  :||||||:|| |:||| :|||||||: ||| ::||||||  ||||||||
Db        140 QVLFKGQGCPD-YVLLTHTVSRFAISYQEKVNLLSAVKSPCPKDTPEGAELKPWYEPIYL 198

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||:||||:| | |||||||||||||:|||
Db        199 GGVFQLEKGDQLSAEVNLPKYLDFAESGQVYFGVIAL 235


RESULT 8
S52715
tumor necrosis factor alpha precursor - bovine (fragment)
C;Species: Bos primigenius taurus (cattle)
C;Date: 19-May-1995 #sequence_revision 21-Jul-1995 #text_change 04-Feb-2000
C;Accession: S52715
R;Mertens, B.; Gaidulis, L.
submitted to the EMBL Data Library, March 1995
A;Description: Cloning and sequence analysis of cDNAs encoding bovine CD40 ligand and bo
A;Reference number: S52715
A;Accession: S52715
A;Status: preliminary
A;Molecule type: mRNA
A;Residues: 1-185 <MER>
A;Cross-references: UNIPARC:UPI000016C282; EMBL:Z48808; NID:g755701; PIDN:CAA88743.1; PI
C;Superfamily: tumor necrosis factor
C;Keywords: glycoprotein
```

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F;33/Binding site: carbohydrate (Ser) (covalent) #status predicted
F;97-129/Disulfide bonds: #status predicted

  Query Match             78.0%;  Score 629;  DB 2;  Length 185;
  Best Local Similarity   77.7%;  Pred. No. 1e-56;
  Matches  122;  Conservative   15;  Mismatches   20;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              :||||:  |: |||||||:  : |||:| :  ||||:||||:| ||||||||::|||||||
Db         29 LRSSSQASSNKPVAHVVADINSPGQLRWWDSYANALMANGVKLEDNQLVVPADGLYLIYS 88

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| ||||||| : |||||||||||||:||:|||| ||| ||||| ||| |||||||
Db         89 QVLFRGQGCPSTPLFLTHTISRIAVSYQTKVNILSAIKSPCHRETPEWAEAKPWYEPIYQ 148

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||| |||||:||||||||||||
Db        149 GGVFQLEKGDRLSAEINLPDYLDYAESGQVYFGIIAL 185


RESULT 9
S24642
tumor necrosis factor alpha precursor - bovine
C;Species: Bos primigenius taurus (cattle)
C;Date: 10-Sep-1999 #sequence_revision 10-Sep-1999 #text_change 09-Jul-2004
C;Accession: I46047; S24642
R;Cludts, I.; Cleuter, Y.; Kettmann, R.; Burny, A.; Droogmans, L.
Cytokine 5, 336-341, 1993
A;Title: Cloning and characterization of the tandemly arranged bovine lymphotoxin and tu
A;Reference number: I46046; MUID:94083525; PMID:8260599
A;Accession: I46047
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-233 <CL2>
A;Cross-references: UNIPROT:Q06599; UNIPARC:UPI00001370B8; EMBL:Z14137; NID:g796; PIDN:C
C;Genetics:
A;Gene: TNFA
A;Introns: 62/3; 78/1; 94/1
C;Superfamily: tumor necrosis factor
C;Keywords: glycoprotein; lipoprotein; myristylation; transmembrane protein
F;20/Binding site: myristate (Lys) (covalent) #status predicted
F;81/Binding site: carbohydrate (Ser) (covalent) #status predicted
F;145-177/Disulfide bonds: #status predicted

  Query Match             78.0%;  Score 629;  DB 1;  Length 233;
  Best Local Similarity   77.7%;  Pred. No. 1.4e-56;
  Matches  122;  Conservative   15;  Mismatches   20;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              :||||:  |: |||||||:  : |||:| :  ||||:||||:| ||||||||::|||||||
Db         77 LRSSSQASSNKPVAHVVADINSPGQLRWWDSYANALMANGVKLEDNQLVVPADGLYLIYS 136

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| ||||||| : |||||||||||||:||:|||| ||| ||||| ||| |||||||
Db        137 QVLFRGQGCPSTPLFLTHTISRIAVSYQTKVNILSAIKSPCHRETPEWAEAKPWYEPIYQ 196

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||| |||||:||||||||||||
Db        197 GGVFQLEKGDRLSAEINLPDYLDYAESGQVYFGIIAL 233


RESULT 10
JH0529
tumor necrosis factor alpha precursor - sheep
N;Alternate names: cachectin; TNF alpha
C;Species: Ovis orientalis aries, Ovis ammon aries (domestic sheep)
C;Date: 10-Sep-1999 #sequence_revision 10-Sep-1999 #text_change 09-Jul-2004
C;Accession: JH0529; S48118; S13114; S20661
R;Green, I.R.; Sargan, D.R.
Gene 109, 203-210, 1991
A;Title: Sequence of the cDNA encoding ovine tumor necrosis factor-alpha: problems with
A;Reference number: JH0529; MUID:92112044; PMID:1765267
A;Accession: JH0529
A;Molecule type: mRNA
A;Residues: 1-234 <GRE>
A;Cross-references: UNIPROT:P23383; UNIPARC:UPI000002CD39; EMBL:X55152; NID:g1405; PIDN
A;Experimental source: alveolar macrophage
R;Nash, A.D.; Barcham, G.J.; Brandon, M.R.; Andrews, A.E.
Immunol. Cell Biol. 69, 273-283, 1991
A;Title: Molecular cloning, expression and characterization of ovine TNF-alpha.
A;Reference number: S48118; MUID:92155784; PMID:1786996
A;Accession: S48118
A;Status: preliminary
A;Molecule type: mRNA
A;Residues: 1-234 <NAS>
A;Cross-references: UNIPARC:UPI000002CD39; EMBL:X56756; NID:g297806; PIDN:CAA40076.1; P
R;Young, A.J.; Hay, J.B.; Chan, J.Y.C.
Nucleic Acids Res. 18, 6723, 1990
A;Title: Primary structure of ovine tumor necrosis factor alpha cDNA.
A;Reference number: S13114; MUID:91067496; PMID:2251151
A;Accession: S13114
A;Status: preliminary
A;Molecule type: mRNA
A;Residues: 1-62,64-234 <YOU>
A;Cross-references: UNIPARC:UPI000016C4EC; EMBL:X55966; NID:g1403; PIDN:CAA39437.1; PID
A;Note: comparison with the introns of homologous sequences suggest that this is probab
C;Superfamily: tumor necrosis factor
C;Keywords: alternative splicing; cytokine; cytotoxin; glycoprotein; lipoprotein; lymph
F;1-77/Domain: propeptide #status predicted <PRO>
F;78-234/Product: tumor necrosis factor alpha #status predicted <TUM>
F;20/Binding site: myristate (Lys) (covalent) #status predicted
F;82/Binding site: carbohydrate (Ser) (covalent) #status predicted
F;96/Binding site: carbohydrate (Asn) (covalent) #status predicted
F;146-178/Disulfide bonds: #status predicted

  Query Match             77.8%;  Score 627;  DB 1;  Length 234;
  Best Local Similarity   77.7%;  Pred. No. 2.2e-56;
  Matches  122;  Conservative   15;  Mismatches   20;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              :||||:  :: |||||||| | |||:| :  ||||:||||||:|||||||::|||||||
Db         78 LRSSSQASNNKPVAHVVANISAPGQLRWGDSYANALMANGVELKDNQLVVPTDGLYLIYS 137

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| | ||||| : |||||||||||||:||:|||| ||| ||| ||||| |||||||
Db        138 QVLFRGHGCPSTPLFLTHTISRIAVSYQTKVNILSAIKSPCHRETLEGAEAKPWYEPIYQ 197

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||| |:|||:|||||||||||||
Db        198 GGVFQLEKGDRLSAEINLPEYLDYAESGQVYFGIIAL 234


RESULT 11
I54490
tumor necrosis factor alpha precursor - white-footed mouse
C;Species: Peromyscus leucopus (white-footed mouse)
C;Date: 02-Aug-1996 #sequence_revision 02-Aug-1996 #text_change 09-Jul-2004
C;Accession: I54490
R;Crew, M.D.; Filipowsky, M.E.
Immunogenetics 35, 351-353, 1992
A;Title: Sequence of the tumor necrosis factor/cachectin (TNF) gene from Peromyscus leu
A;Reference number: I54490; MUID:92218012; PMID:1348497
A;Accession: I54490
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-235 <RES>
A;Cross-references: UNIPROT:P36939; UNIPARC:UPI00001370C5; GB:M59233; NID:g202506; PIDN
C;Genetics:
A;Gene: PlTNF
A;Introns: 62/3; 81/1; 97/1
C;Superfamily: tumor necrosis factor
C;Keywords: glycoprotein; lipoprotein; myristylation
F;19,20/Binding site: myristate (Lys) (covalent) #status predicted
F;84/Binding site: carbohydrate (Ser) (covalent) #status predicted

  Query Match             77.7%;  Score 626.5;  DB 2;  Length 235;
```

```
  Best Local Similarity   75.2%;  Pred. No. 2.5e-56;
  Matches  118;  Conservative   21;  Mismatches   17;  Indels    1;  Gaps    1;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              :||||:  || |||||||| | : ||:||:| ||||||||::|:|||||:|::||||:||
Db         80 LRSSSQNSSDKPVAHVVANHQVDEQLEWLSRGANALLANGMDLKDNQLVIPADGLYLVYS 139

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| |||| |::|||||:|| |||| :|||||| ||| :|||||:|  ||||||||
Db        140 QVLFKGQGC-SSYVLLTHTVSRFAVSYEDKVNLLSAIKSPCPKETPEGSELKPWYEPIYL 198

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| |||||||:| | ||||||||||||||:|||
Db        199 GGVFQLEKGDRLSAEVNLPKYLDFAESGQVYFGVIAL 235


RESULT 12
S06192
tumor necrosis factor alpha precursor - goat (fragment)
N;Alternate names: cachectin; TNF alpha
C;Species: Capra aegagrus hircus (domestic goat)
C;Date: 28-Feb-1990 #sequence_revision 28-Feb-1990 #text_change 09-Jul-2004
C;Accession: S06192; S41867
R;Goldstein, I.M.; Henner, D.; Talhouk, A.
submitted to the EMBL Data Library, March 1989
A;Reference number: S06192
A;Accession: S06192
A;Molecule type: mRNA
A;Residues: 1-193 <GOL>
A;Cross-references: UNIPROT:P13296; UNIPARC:UPI000016C3FD; EMBL:X14828; NID:g992; PIDN:C
R;Rimstad, E.
submitted to the EMBL Data Library, January 1994
A;Reference number: S41867
A;Accession: S41867
A;Status: preliminary
A;Molecule type: mRNA
A;Residues: 36-38,'S',40-78,'A',80-88,'N',90-114,'Q',116-123,'D',125-144,'G',145-173,'L'
A;Cross-references: UNIPARC:UPI000016C3FE; EMBL:X77317; NID:g452607; PIDN:CAA54523.1; PI
C;Superfamily: tumor necrosis factor
C;Keywords: cytokine; cytotoxin; glycoprotein; lymphokine; macrophage; membrane protein
F;42/Binding site: carbohydrate (Ser) (covalent) #status predicted
F;106-138/Disulfide bonds: #status predicted

  Query Match             77.2%;  Score 622.5;  DB 2;  Length 193;
  Best Local Similarity   78.3%;  Pred. No. 5e-56;
  Matches  123;  Conservative   14;  Mismatches   19;  Indels    1;  Gaps    1;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              :||||:  |: |||||||| | |||:| :  |||| ||||||:||||||::|||||||
Db         38 LRSSSQASSNKPVAHVVANISAPGQLRWGDSYANALKANGVELKDNQLVVPTDGLYLIYS 97

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| | ||||| : |||||||||||||||:||:|||| ||| ||||| ||| |||||||
Db         98 QVLFRGHGCPSTPLFLTHTISRIAVSYQTKVNILSAIKSPCHRETPE-AEAKPWYEPIYQ 156

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| |||||||||:|:|||:|||||||||||||
Db        157 GGVFQLEKGDRLSAEINQPEYLDYAESGQVYFGIIAL 193


RESULT 13
JU0029
tumor necrosis factor alpha precursor - rat
N;Alternate names: cachectin; TNF alpha
C;Species: Rattus norvegicus (Norway rat)
C;Date: 07-Jun-1990 #sequence_revision 07-Jun-1990 #text_change 09-Jul-2004
C;Accession: JU0029; JN0868; S21674
R;Shirai, T.; Shimizu, N.; Horiguchi, S.; Ito, H.
Agric. Biol. Chem. 53, 1733-1736, 1989
A;Title: Cloning and expression in Escherichia coli of the gene for rat tumor necrosis f
A;Reference number: JU0029
A;Accession: JU0029
A;Molecule type: DNA
A;Residues: 1-235 <SHI>
A;Cross-references: UNIPROT:P16599; UNIPARC:UPI000004368F
R;Kwon, J.; Chung, I.Y.; Benveniste, E.N.
Gene 132, 227-236, 1993
A;Title: Cloning and sequence analysis of the rat tumor necrosis factor-encoding genes.
A;Reference number: JN0868; MUID:94040766; PMID:8224868
A;Accession: JN0868
A;Molecule type: DNA
A;Residues: 1-235 <KWO>
A;Cross-references: UNIPARC:UPI000004368F; GB:L00981; NID:g205253; PIDN:AAA16275.1; PID
R;Estler, H.C.; Grewe, M.; Gaussling, R.; Pavlovic, M.; Decker, K.
Biol. Chem. Hoppe-Seyler 373, 271-281, 1992
A;Title: Rat tumor necrosis factor-alpha. Transcription in rat Kupffer cells and in vit
A;Reference number: S21674; MUID:92329007; PMID:1627266
A;Accession: S21674
A;Molecule type: mRNA
A;Residues: 1-38,'P',40-162,'T',164-201,'S',203-235 <EST>
A;Cross-references: UNIPARC:UPI000017086D; GB:X66539; GB:S40199; NID:g395369; PIDN:CAA4
C;Comment: Tumor necrosis factor is secreted by macrophages in response to endotoxin and
C;Genetics:
A;Gene: TNF-alpha
A;Introns: 62/3; 81/1; 97/1
C;Superfamily: tumor necrosis factor
C;Keywords: cytokine; cytotoxin; glycoprotein; lipoprotein; lymphokine; macrophage; memb
F;80-235/Product: tumor necrosis factor #status predicted <MAT>
F;19,20/Binding site: myristate (Lys) (covalent) #status predicted
F;84/Binding site: carbohydrate (Ser) (covalent) #status predicted
F;86/Binding site: carbohydrate (Asn) (covalent) #status predicted
F;148-179/Disulfide bonds: #status predicted

  Query Match             76.6%;  Score 617.5;  DB 2;  Length 235;
  Best Local Similarity   74.5%;  Pred. No. 2.1e-55;
  Matches  117;  Conservative   20;  Mismatches   19;  Indels    1;  Gaps    1;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              :||||:  || |||||||| ||| ||:||::||||||||::|:|||||||::|||||||
Db         80 LRSSSQNSSDKPVAHVVANHQAEEQLEWLSQRANALLANGMDLKDNQLVVPADGLYLIYS 139

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| |||||  :||||||:|| |:||| :|:||||| ||| ::|||||  |||||:||
Db        140 QVLFKGQGCPD-YVLLTHTVSRFAISYQEKVSLLSAIKSPCPKDTPEGAELKPWYEPMYL 198

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| || ||||:| | |||  |||||||||:|||
Db        199 GGVFQLEKGDLLSAEVNLPKYLDITESGQVYFGVIAL 235


RESULT 14
JH0309
tumor necrosis factor beta precursor - rabbit
N;Alternate names: lymphotoxin; TNF beta
C;Species: Oryctolagus cuniculus (domestic rabbit)
C;Date: 10-Sep-1999 #sequence_revision 10-Sep-1999 #text_change 09-Jul-2004
C;Accession: JH0309; PN0098
R;Shakhov, A.N.; Kuprash, D.V.; Azizov, M.M.; Jongeneel, C.V.; Nedospasov, S.A.
Gene 95, 215-221, 1990
A;Title: Structural analysis of the rabbit TNF locus, containing the genes encoding TNF-
A;Reference number: JH0309; MUID:91065534; PMID:2249779
A;Accession: JH0309
A;Molecule type: DNA
A;Residues: 1-197 <SH2>
A;Cross-references: UNIPROT:P10154; UNIPARC:UPI00001370CE; GB:M60340; GB:M35326; NID:g16
R;Shakhov, A.N.; Kuprash, D.V.; Turetskaya, R.L.; Azizov, M.M.; Andreyeva, A.V.; Nedospa
Mol. Biol. (Mosk.) 23, 1743-1750, 1989
A;Title: Cloning and structural analysis of the genes, coding for rabbit tumor necrosis
A;Reference number: PN0098; MUID:90220566; PMID:2633043
A;Accession: PN0098
A;Molecule type: mRNA
A;Residues: 1-197 <SHA>
A;Cross-references: UNIPARC:UPI00001370CE; GB:X55745; NID:g297167; PIDN:CAA39275.1; PID
C;Genetics:
A;Introns: 25/3; 61/1
C;Superfamily: tumor necrosis factor
```

```
C;Keywords: cytokine; cytotoxin; glycoprotein; lymphokine; macrophage
F;1-26/Domain: signal sequence #status predicted <SIG>
F;27-197/Product: lymphotoxin #status predicted <MAT>

  Query Match             31.9%;  Score 257.5;  DB 1;  Length 197;
  Best Local Similarity   40.0%;  Pred. No. 9.1e-19;
  Matches   60;  Conservative   20;  Mismatches   59;  Indels   11;  Gaps    4;

Qy         12 PVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYSQVLFSGQGCP- 70
              | ||:| :| |:  |:|      | | :|  | :| |:||| ||| :||||:|||:||
Db         55 PAAHLVGDPSAQDSLRWRANTDRAFLRHGFSLSNNSLLVPSSGLYFVYSQVVFSGEGCSP 114

Qy         71 ---STHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYLGGVFQLE 127
                 | : | | :   :  |   | |||| | |    |:|    ||   :| | || |
Db        115 KAVPTPLYLAHEVQLFSSQYSFHVPLLSAQKSVC--PGPQG----PWVRSVYQGAVFLLT 168

Qy        128 TGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
               ||:||   :  :|  : |  |:||  ||
Db        169 QGDQLSTHTDGIAHLLLSPS-SVFFGAFAL 197


RESULT 15
S24641
lymphotoxin - bovine
C;Species: Bos primigenius taurus (cattle)
C;Date: 10-Sep-1999 #sequence_revision 10-Sep-1999 #text_change 09-Jul-2004
C;Accession: I46046; S24641
R;Cludts, I.; Cleuter, Y.; Kettmann, R.; Burny, A.; Droogmans, L.
Cytokine 5, 336-341, 1993
A;Title: Cloning and characterization of the tandemly arranged bovine lymphotoxin and tu
A;Reference number: I46046; MUID:94083525; PMID:8260599
A;Accession: I46046
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-204 <CL2>
A;Cross-references: UNIPROT:Q06600; UNIPARC:UPI00001370CA; EMBL:Z14137; NID:g796; PIDN:C
C;Genetics:
A;Introns: 32/3; 68/1
C;Superfamily: tumor necrosis factor

  Query Match             31.3%;  Score 252;  DB 1;  Length 204;
  Best Local Similarity   35.4%;  Pred. No. 3.5e-18;
  Matches   63;  Conservative   22;  Mismatches   65;  Indels   28;  Gaps    5;

Qy          1 VRSSSRTPSDA----------------PVAHVVANPQAEGQLQWLNRRANALLANGVEL 43
              :|    ||| |                | ||:| :|  :  |:|      | | :|  |
Db         34 LRGIGLTPSAAQPAHQQLPTPFTRGTLKPAAHLVGDPSTQDSLRWRANTDRAFLRHGFSL 93

Qy         44 RDNQLVVPSEGLYLIYSQVLFSGQGC----PSTHVLLTHTISRIAVSYQTRVNLLSAIAS 99
               :| |:||: ||| :||||:|||:||      | : | | :   :  |   | ||||  |
Db         94 SNNSLLVPTSGLYFVYSQVVFSGRGCFPRATPTPLYLAHEVQLFSPQYPFHVPLLSAQKS 153

Qy        100 PCQRETPEGAEALPWYEPIYLGGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
               |    |:|    ||   :| | || |  ||:||   :   :|  : |  |:||  ||
Db        154 VC--PGPQG----PWVRSVYQGAVFLLTRGDQLSTHTDGISHLLLSPS-SVFFGAFAL 204


Search completed: May  5, 2006, 11:27:48
Job time : 19 secs
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GenCore version 5.1.7

OM protein - protein search, using sw model

Run on: May 5, 2006, 11:21:53 ; Search time 53.5 Seconds
(without alignments)
2070.429 Million cell updates/sec

Title: US-10-668-178-16
Perfect score: 806
Sequence: 1 VRSSSRTPSDAPVAHVVANP.....RPDYLDFAESGQVYFGIIAL 157

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 2166443 seqs, 705528306 residues

Total number of hits satisfying chosen parameters: 2166443

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : UniProt_05.80:*
1: uniprot_sprot:*
2: uniprot_trembl:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID		Description
1	777	96.4	233	1	TNFA_HUMAN	P01375	homo sapien
2	777	96.4	233	2	Q5STB3_HUMAN	Q5stb3	homo sapien
3	770	95.5	233	1	TNFA_PAPSP	P33620	papio sp. (
4	768	95.3	232	1	TNFA_PANTR	Q8hzd9	pan troglod
5	759	94.2	233	1	TNFA_MACMU	P48094	macaca mula
6	756	93.8	233	1	TNFA_MACFA	P79337	macaca fasc
7	755	93.7	233	1	TNFA_PAPHU	O77510	papio hamad
8	752	93.3	233	1	TNFA_PAPAN	P59695	papio anubi
9	742	92.1	149	2	O97543_AOTNA	O97543	aotus nancy
10	736	91.3	233	1	TNFA_CANFA	P51742	canis famil
11	729	90.4	233	1	TNFA_FELCA	P19101	felis silve
12	704	87.3	233	1	TNFA_SAISC	Q8mkg8	saimiri sci
13	695	86.2	234	1	TNFA_HORSE	P29553	equus cabal
14	693	86.0	149	2	O97538_AOTVO	O97538	aotus vocif
15	693	86.0	149	2	Q9TTG8_AOTNI	Q9ttg8	aotus nigri
16	689	85.5	217	2	Q9BEG0_CYCDI	Q9beg0	cyclopes di
17	685	85.0	217	2	Q9BEG1_BRATR	Q9beg1	bradypus tr
18	677	84.0	233	1	TNFA_DELLE	Q8wnr1	delphinapte
19	675.5	83.8	232	1	TNFA_PIG	P23563	sus scrofa
20	659	81.8	233	1	TNFA_TURTR	Q9bea1	tursiops tr
21	650	80.6	217	2	Q9BEF4_CABUN	Q9bef4	cabassous u
22	640	79.4	138	2	Q9TTG7_AOTLE	Q9ttg7	aotus lemur
23	639	79.3	234	1	TNFA_CAPHI	P13296	capra hircu
24	637.5	79.1	235	1	TNFA_RABIT	P04924	oryctolagus
25	636	78.9	234	2	Q53ZM5_CAPHI	Q53zm5	capra hircu
26	635.5	78.8	234	1	TNFA_CAVPO	P51435	cavia porce
27	632.5	78.5	235	1	TNFA_MOUSE	P06804	mus musculu
28	631	78.3	234	2	Q539C2_TUPTA	Q539c2	tupaia tana
29	630	78.2	216	2	Q9BEC4_TALEU	Q9bec4	talpa europ
30	630	78.2	229	1	TNFA_CEREL	P51743	cervus elap
31	629	78.0	233	1	TNFA_BOVIN	Q06599	bos taurus
32	629	78.0	233	1	TNFA_BUBBU	P59693	bubalus bub
33	629	78.0	234	1	TNFA_BOSIN	P59684	bos indicus
34	627	77.8	234	1	TNFA_SHEEP	P23383	ovis aries
35	626.5	77.7	235	1	TNFA_PERLE	P36939	peromyscus
36	620.5	77.0	232	2	Q80XA4_PERMA	Q80xa4	peromyscus
37	620.5	77.0	235	2	Q5W9H9_MERUN	Q5w9h9	meriones un
38	617.5	76.6	235	1	TNFA_RAT	P16599	rattus norv
39	617.5	76.6	235	2	Q6EE11_RAT	Q6eel1	rattus norv
40	615	76.3	233	1	TNFA_CAMBA	Q75n23	camelus bac
41	615	76.3	233	1	TNFA_LAMGL	P59694	lama glama
42	609.5	75.6	156	2	Q91ZL4_SIGHI	Q91zl4	sigmodon hi
43	605.5	75.1	216	2	Q9BEC9_OCHPR	Q9bec9	ochotona pr
44	602.5	74.8	233	1	TNFA_MARMO	O35734	marmota mon
45	602.5	74.8	233	2	Q6X658_MARMO	Q6x658	marmota mon

ALIGNMENTS

RESULT 1
TNFA_HUMAN
ID TNFA_HUMAN STANDARD; PRT; 233 AA.
AC P01375; O43647; Q9P1Q2; Q9UIV3;
DT 21-JUL-1986 (Rel. 01, Created)
DT 21-JUL-1986 (Rel. 01, Last sequence update)
DT 13-SEP-2005 (Rel. 48, Last annotation update)
DE Tumor necrosis factor precursor (TNF-alpha) (Tumor necrosis factor
DE ligand superfamily member 2) (TNF-a) (Cachectin) [Contains: Tumor
DE necrosis factor, membrane form; Tumor necrosis factor, soluble form].
GN Name=TNF; Synonyms=TNFA, TNFSF2;
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini; Hominidae;
OC Homo.
OX NCBI_TaxID=9606;
RN [1]
RP NUCLEOTIDE SEQUENCE.
RX MEDLINE=87217060; PubMed=3555974;
RA Nedospasov S.A., Shakhov A.N., Turetskaya R.L., Mett V.A.,
RA Azizov M.M., Georgiev G.P., Korobko V.G., Dobrynin V.N.,
RA Filippov S.A., Bystrov N.S., Boldyreva E.F., Chuvpilo S.A.,
RA Chumakov A.M., Shingarova L.N., Ovchinnikov Y.A.;
RT "Tandem arrangement of genes coding for tumor necrosis factor (TNF-
RT alpha) and lymphotoxin (TNF-beta) in the human genome.";
RL Cold Spring Harb. Symp. Quant. Biol. 51:611-624(1986).
RN [2]
RP NUCLEOTIDE SEQUENCE.
RX MEDLINE=85086244; PubMed=6392892;
RA Pennica D., Nedwin G.E., Hayflick J.S., Seeburg P.H., Derynck R.,
RA Palladino M.A., Kohr W.J., Aggarwal B.B., Goeddel D.V.;
RT "Human tumour necrosis factor: precursor structure, expression and
RT homology to lymphotoxin.";
RL Nature 312:724-729(1984).
RN [3]
RP NUCLEOTIDE SEQUENCE.
RX MEDLINE=85137898; PubMed=3883195;
RA Shirai T., Yamaguchi H., Ito H., Todd C.W., Wallace R.B.;
RT "Cloning and expression in Escherichia coli of the gene for human
RT tumour necrosis factor.";
RL Nature 313:803-806(1985).
RN [4]
RP NUCLEOTIDE SEQUENCE.
RX MEDLINE=86016093; PubMed=2995927;
RA Nedwin G.E., Naylor S.L., Sakaguchi A.Y., Smith D.H.,
RA Jarrett-Nedwin J., Pennica D., Goeddel D.V., Gray P.W.;
RT "Human lymphotoxin and tumor necrosis factor genes: structure,
RT homology and chromosomal localization.";
RL Nucleic Acids Res. 13:6361-6373(1985).
RN [5]
RP NUCLEOTIDE SEQUENCE.
RX MEDLINE=85142190; PubMed=3856324;
RA Wang A.M., Creasey A.A., Ladner M.B., Lin L.S., Strickler J.,
RA van Arsdell J.N., Yamamoto R., Mark D.F.;

RT "Molecular cloning of the complementary DNA for human tumor necrosis
RT factor.";
RL Science 228:149-154(1985).
RN [6]
RP NUCLEOTIDE SEQUENCE.
RX MEDLINE=86030296; PubMed=3932069;
RA Marmenout A., Fransen L., Tavernier J., van der Heyden J., Tizard R.,
RA Kawashima E., Shaw A., Johnson M.J., Semon D., Mueller R.,
RA Ruysschaert M.R., van Vliet A., Fiers W.;
RT "Molecular cloning and expression of human tumor necrosis factor and
RT comparison with mouse tumor necrosis factor.";
RL Eur. J. Biochem. 152:515-522(1985).
RN [7]
RP NUCLEOTIDE SEQUENCE.
RX MEDLINE=93272029; PubMed=8499947;
RA Iris F.J.M., Bougueleret L., Prieur S., Caterina D., Primas G.,
RA Perrot V., Jurka J., Rodriguez-Tome P., Claverie J.-M., Dausset J.,
RA Cohen D.;
RT "Dense Alu clustering and a potential new member of the NF kappa B
RT family within a 90 kilobase HLA class III segment.";
RL Nat. Genet. 3:137-145(1993).
RN [8]
RP NUCLEOTIDE SEQUENCE.
RX MEDLINE=99218514; PubMed=10202016;
RA Neville M.J., Campbell R.D.;
RT "A new member of the Ig superfamily and a V-ATPase G subunit are among
RT the predicted products of novel genes close to the TNF locus in the
RT human MHC.";
RL J. Immunol. 162:4745-4754(1999).
RN [9]
RP NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].
RX PubMed=14656967; DOI=10.1101/gr.1736803;
RA Xie T., Rowen L., Aguado B., Ahearn M.E., Madan A., Qin S.,
RA Campbell R.D., Hood L.;
RT "Analysis of the gene-dense major histocompatibility complex class III
RT region and its comparison to mouse.";
RL Genome Res. 13:2621-2636(2003).
RN [10]
RP NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].
RA Shiina S., Tamiya G., Oka A., Inoko H.;
RT "Homo sapiens 2,229,817bp genomic DNA of 6p21.3 HLA class I region.";
RL Submitted (SEP-1999) to the EMBL/GenBank/DDBJ databases.
RN [11]
RP NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].
RA Shiina T., Ota M., Katsuyama Y., Hashimoto N., Inoko H.;
RT "Genome diversity in HLA: a new strategy for detection of genetic
RT polymorphisms in expressed genes within the HLA class III and class I
RT regions.";
RL Submitted (JUL-2002) to the EMBL/GenBank/DDBJ databases.
RN [12]
RP NUCLEOTIDE SEQUENCE [GENOMIC DNA].
RA Rieder M.J., Carrington D.P., Chung M.-W., Lee K.L., Poel C.L., Yi Q.,
RA Nickerson D.A.;
RT "SeattleSNPs. NHLBI HL66682 program for genomic applications, UW-
RT FHCRC, Seattle, WA (URL: http://pga.gs.washington.edu).";
RL Submitted (DEC-2001) to the EMBL/GenBank/DDBJ databases.
RN [13]
RP NUCLEOTIDE SEQUENCE [GENOMIC DNA], AND VARIANT LEU-84.
RA Rieder M.J., Livingston R.J., Daniels M.R., Montoya M.A., Chung M.-W.,
RA Miyamoto K.E., Nguyen C.P., Nguyen D.A., Poel C.L., Robertson P.D.,
RA Schackwitz W.S., Sherwood J.K., Witrak L.A., Nickerson D.A.;
RT "NIEHS-SNPs, environmental genome project, NIEHS ES15478, Department
RT of Genome Sciences, Seattle, WA (URL: http://egp.gs.washington.edu).";
RL Submitted (JAN-2003) to the EMBL/GenBank/DDBJ databases.
RN [14]
RP NUCLEOTIDE SEQUENCE [LARGE SCALE MRNA].
RC TISSUE=Blood;
RX MEDLINE=22388257; PubMed=12477932; DOI=10.1073/pnas.242603899;
RA Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,
RA Klausner R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D.,
RA Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,
RA Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,
RA Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,
RA Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,
RA Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,
RA Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,
RA Bosak S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,
RA Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,
RA Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,
RA Fahey J., Helton E., Ketteman M., Madan A., Rodrigues S., Sanchez A.,
RA Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,
RA Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C.,
RA Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M.,
RA Butterfield Y.S.N., Krzywinski M.I., Skalska U., Smailus D.E.,
RA Schnerch A., Schein J.E., Jones S.J.M., Marra M.A.;
RT "Generation and initial analysis of more than 15,000 full-length human
RT and mouse cDNA sequences.";
RL Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002).
RN [15]
RP NUCLEOTIDE SEQUENCE OF 77-233.
RA Jang J.S., Kim B.E.;
RL Submitted (JAN-1998) to the EMBL/GenBank/DDBJ databases.
RN [16]
RP NUCLEOTIDE SEQUENCE OF 84-214.
RC TISSUE=Prostatic carcinoma;
RA Shao C., Yan W., Zhu F., Yue W., Chai Y., Zhao Z., Wang C.;
RL Submitted (MAR-2000) to the EMBL/GenBank/DDBJ databases.
RN [17]
RP PHOSPHORYLATION (MEMBRANE FORM).
RX MEDLINE=96170872; PubMed=8597870;
RA Pocsik E., Duda E., Wallach D.;
RT "Phosphorylation of the 26 kDa TNF precursor in monocytic cells and in
RT transfected HeLa cells.";
RL J. Inflamm. 45:152-160(1995).
RN [18]
RP PHOSPHORYLATION BY CK1, AND DEPHOSPHORYLATION.
RX MEDLINE=99221647; PubMed=10205166; DOI=10.1093/emboj/18.8.2119;
RA Watts A.D., Hunt N.H., Wanigasekara Y., Bloomfield G., Wallach D.,
RA Roufogalis B.D., Chaudhri G.;
RT "A casein kinase I motif present in the cytoplasmic domain of members
RT of the tumour necrosis factor ligand family is implicated in 'reverse
RT signalling'.";
RL EMBO J. 18:2119-2126(1999).
RN [19]
RP MUTAGENESIS.
RX MEDLINE=91184128; PubMed=2009860;
RA Ostade X.V., Tavernier J., Prange T., Fiers W.;
RT "Localization of the active site of human tumour necrosis factor
RT (hTNF) by mutational analysis.";
RL EMBO J. 10:827-836(1991).
RN [20]
RP MYRISTOYLATION.
RX MEDLINE=93018820; PubMed=1402651; DOI=10.1084/jem.176.4.1053;
RA Stevenson F.T., Bursten S.L., Locksley R.M., Lovett D.H.;
RT "Myristyl acylation of the tumor necrosis factor alpha precursor on
RT specific lysine residues.";
RL J. Exp. Med. 176:1053-1062(1992).
RN [21]
RP CLEAVAGE BY ADAM17.
RX MEDLINE=97186575; PubMed=9034191;
RA Moss M.L., Jin S.-L.C., Milla M.E., Burkhart W., Carter H.L.,
RA Chen W.-J., Clay W.C., Didsbury J.R., Hassler D., Hoffman C.R.,
RA Kost T.A., Lambert M.H., Leesnitzer M.A., McCauley P., McGeehan G.,
RA Mitchell J., Moyer M., Pahel G., Rocque W., Overton L.K., Schoenen F.,
RA Seaton T., Su J.-L., Warner J., Willard D., Becherer J.D.;
RT "Cloning of a disintegrin metalloproteinase that processes precursor
RT tumour-necrosis factor-alpha.";
RL Nature 385:733-736(1997).
RN [22]
RP X-RAY CRYSTALLOGRAPHY (2.9 ANGSTROMS).
RX MEDLINE=89159409; PubMed=2922050; DOI=10.1038/338225a0;
RA Jones E.Y., Stuart D.I., Walker N.P.;
RT "Structure of tumour necrosis factor.";
RL Nature 338:225-228(1989).
RN [23]
RP X-RAY CRYSTALLOGRAPHY (2.9 ANGSTROMS).

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RX   MEDLINE=91193276; PubMed=1964681;
RA   Jones E.Y., Stuart D.I., Walker N.P.;

  Query Match             96.4%;  Score 777;  DB 1;  Length 233;
  Best Local Similarity   96.2%;  Pred. No. 5.3e-71;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||
Db         77 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 136

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| |||||||||||||||||||||||:||||||| |||||||||||| ||||||||
Db        137 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 196

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||||||||||||||||||||||||
Db        197 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 233


RESULT 2
Q5STB3_HUMAN
ID   Q5STB3_HUMAN PRELIMINARY;      PRT;   233 AA.
AC   Q5STB3;
DT   01-FEB-2005 (TrEMBLrel. 29, Created)
DT   01-FEB-2005 (TrEMBLrel. 29, Last sequence update)
DT   13-SEP-2005 (TrEMBLrel. 31, Last annotation update)
DE   Tumor necrosis factor (TNF superfamily, member 2).
GN   Name=TNF;
GN   ORFNames=DAQB-87N14.5-001, DASS-280D8.2-001, XXbac-BCX270M2.1-001,
GN   XXbac-BPG296P20.12-001;
OS   Homo sapiens (Human).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini; Hominidae;
OC   Homo.
OX   NCBI_TaxID=9606;
RN   [1]
RP   NUCLEOTIDE SEQUENCE.
RA   Tracey A.;
RL   Submitted (MAY-2005) to the EMBL/GenBank/DDBJ databases.
DR   EMBL; AL662847; CAI17678.1; -; Genomic_DNA.
DR   EMBL; AL929587; CAI18649.1; -; Genomic_DNA.
DR   EMBL; AL662801; CAI18292.1; -; Genomic_DNA.
DR   EMBL; BX248519; CAI41940.1; -; Genomic_DNA.
DR   SMR; Q5STB3; 82-233.
DR   GO; GO:0016020; C:membrane; IEA.
DR   GO; GO:0005164; F:tumor necrosis factor receptor binding; IEA.
DR   GO; GO:0006955; P:immune response; IEA.
DR   InterPro; IPR006053; TNF_abc.
DR   InterPro; IPR002959; TNF_alpha.
DR   InterPro; IPR006052; TNF_family.
DR   Pfam; PF00229; TNF; 1.
DR   PRINTS; PR01234; TNECROSISFCT.
DR   PRINTS; PR01235; TNFALPHA.
DR   SMART; SM00207; TNF; 1.
DR   PROSITE; PS00251; TNF_1; 1.
DR   PROSITE; PS50049; TNF_2; 1.
SQ   SEQUENCE   233 AA;  25644 MW;  3DF90F96C9031FFE CRC64;

  Query Match             96.4%;  Score 777;  DB 2;  Length 233;
  Best Local Similarity   96.2%;  Pred. No. 5.3e-71;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||
Db         77 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 136

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| |||||||||||||||||||||||:||||||| |||||||||||| ||||||||
Db        137 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 196

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||||||||||||||||||||||||
Db        197 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 233


RESULT 3
TNFA_PAPSP
ID   TNFA_PAPSP     STANDARD;      PRT;   233 AA.
AC   P33620;
DT   01-FEB-1994 (Rel. 28, Created)
DT   01-FEB-1994 (Rel. 28, Last sequence update)
DT   13-SEP-2005 (Rel. 48, Last annotation update)
DE   Tumor necrosis factor precursor (TNF-alpha) (Tumor necrosis factor
DE   ligand superfamily member 2) (TNF-a) (Cachectin) [Contains: Tumor
DE   necrosis factor, membrane form; Tumor necrosis factor, soluble form].
GN   Name=TNF; Synonyms=TNFA, TNFSF2;
OS   Papio sp. (Baboon).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini;
OC   Cercopithecidae; Cercopithecinae; Papio.
OX   NCBI_TaxID=61183;
RN   [1]
RP   NUCLEOTIDE SEQUENCE.
RA   Sanjanwala M., Edwards A.;
RL   Submitted (SEP-1991) to the EMBL/GenBank/DDBJ databases.
CC   -!- FUNCTION: Cytokine that binds to TNFRSF1A/TNFR1 and
CC       TNFRSF1B/TNFBR. It is mainly secreted by macrophages and can
CC       induce cell death of certain tumor cell lines. It is potent
CC       pyrogen causing fever by direct action or by stimulation of
CC       interleukin 1 secretion and is implicated in the induction of
CC       cachexia, Under certain conditions it can stimulate cell
CC       proliferation and induce cell differentiation.
CC   -!- SUBUNIT: Homotrimer (By similarity).
CC   -!- SUBCELLULAR LOCATION: Type II membrane protein. Also exists as an
CC       extracellular soluble form (By similarity).
CC   -!- PTM: The soluble form derives from the membrane form by
CC       proteolytic processing (By similarity).
CC   -!- PTM: The membrane form, but not the soluble form, is
CC       phosphorylated on serine residues. Dephosphorylation of the
CC       membrane form occurs by binding to soluble TNFRSF1A/TNFR1 (By
CC       similarity).
CC   -!- SIMILARITY: Belongs to the tumor necrosis factor family.
CC   ---------------------------------------------------------------------
CC   This Swiss-Prot entry is copyright. It is produced through a collaboration
CC   between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC   the European Bioinformatics Institute. There are no restrictions on its
CC   use as long as its content is in no way modified and this statement is not
CC   removed.
CC   ---------------------------------------------------------------------
DR   EMBL; X62141; CAA44068.1; -; Genomic_DNA.
DR   PIR; S22052; S22052.
DR   HSSP; P01375; 1A8M.
DR   SMR; P33620; 82-233.
DR   InterPro; IPR006053; TNF_abc.
DR   InterPro; IPR002959; TNF_alpha.
DR   InterPro; IPR006052; TNF_family.
DR   InterPro; IPR003636; TNF_subf.
DR   PANTHER; PTHR11471:SF4; TNF_alpha; 1.
DR   Pfam; PF00229; TNF; 1.
DR   PRINTS; PR01234; TNECROSISFCT.
DR   PRINTS; PR01235; TNFALPHA.
DR   ProDom; PD002012; TNF_subf; 1.
DR   SMART; SM00207; TNF; 1.
DR   PROSITE; PS00251; TNF_1; 1.
DR   PROSITE; PS50049; TNF_2; 1.
KW   Cytokine; Phosphorylation; Signal-anchor; Transmembrane.
FT   CHAIN         1    233       Tumor necrosis factor, membrane form.
FT   CHAIN        77    233       Tumor necrosis factor, soluble form.
FT   TOPO_DOM      1     35       Cytoplasmic (Potential).
FT   TRANSMEM     36     56       Signal-anchor for type II membrane
FT                                protein (Potential).
FT   TOPO_DOM     57    233       Extracellular (Potential).
FT   SITE         76     77       Cleavage (by ADAM17) (By similarity).
FT   MOD_RES       2      2       Phosphoserine (by CK1) (By similarity).
FT   DISULFID    145    177       By similarity.
```

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SQ   SEQUENCE   233 AA;  25557 MW;  455360B48DC74173 CRC64;

  Query Match             95.5%;  Score 770;  DB 1;  Length 233;
  Best Local Similarity   95.5%;  Pred. No. 2.7e-70;
  Matches  150;  Conservative    1;  Mismatches    6;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||
Db         77 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 136

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| |||||||||||||||||||||||:||||||| ||||||||||||| ||||||||
Db        137 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 196

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||| ||||||||||||||||||||
Db        197 GGVFQLEKGDRLSAEINLPDYLDFAESGQVYFGIIAL 233


RESULT 4
TNFA_PANTR
ID   TNFA_PANTR     STANDARD;      PRT;   232 AA.
AC   Q8HZD9;
DT   10-OCT-2003 (Rel. 42, Created)
DT   10-OCT-2003 (Rel. 42, Last sequence update)
DT   13-SEP-2005 (Rel. 48, Last annotation update)
DE   Tumor necrosis factor precursor (TNF-alpha) (Tumor necrosis factor
DE   ligand superfamily member 2) (TNF-a) (Cachectin) [Contains: Tumor
DE   necrosis factor, membrane form; Tumor necrosis factor, soluble form].
GN   Name=TNF; Synonyms=TNFA, TNFSF2;
OS   Pan troglodytes (Chimpanzee).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini; Hominidae;
OC   Pan.
OX   NCBI_TaxID=9598;
RN   [1]
RP   NUCLEOTIDE SEQUENCE.
RX   MEDLINE=22381002; PubMed=12493009;
RX   DOI=10.1034/j.1600-065X.2002.19008.x;
RA   Kulski J.K., Shiina T., Anzai T., Kohara S., Inoko H.;
RT   "Comparative genomic analysis of the MHC: the evolution of class I
RT   duplication blocks, diversity and complexity from shark to man.";
RL   Immunol. Rev. 190:95-122(2002).
RN   [2]
RP   NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].
RX   MEDLINE=22709134; PubMed=12799463; DOI=10.1073/pnas.1230533100;
RA   Anzai T., Shiina T., Kimura N., Yanagiya K., Kohara S., Shigenari A.,
RA   Yamagata T., Kulski J.K., Naruse T.K., Fujimori Y., Fukuzumi Y.,
RA   Yamazaki M., Tashiro H., Iwamoto C., Umehara Y., Imanishi T.,
RA   Meyer A., Ikeo K., Gojobori T., Bahram S., Inoko H.;
RT   "Comparative sequencing of human and chimpanzee MHC class I regions
RT   unveils insertions/deletions as the major path to genomic
RT   divergence.";
RL   Proc. Natl. Acad. Sci. U.S.A. 100:7708-7713(2003).
RN   [3]
RP   NUCLEOTIDE SEQUENCE OF 33-186.
RA   O'Huigin C., Tichy H., Klein J.;
RT   "Molecular evolution in higher primates; gene specific and organism
RT   specific characteristics.";
RL   Submitted (MAR-2002) to the EMBL/GenBank/DDBJ databases.
CC   -!- FUNCTION: Cytokine that binds to TNFRSF1A/TNFR1 and
CC       TNFRSF1B/TNFBR. It is mainly secreted by macrophages and can
CC       induce cell death of certain tumor cell lines. It is potent
CC       pyrogen causing fever by direct action or by stimulation of
CC       interleukin 1 secretion and is implicated in the induction of
CC       cachexia, Under certain conditions it can stimulate cell
CC       proliferation and induce cell differentiation (By similarity).
CC   -!- SUBUNIT: Homotrimer (By similarity).
CC   -!- SUBCELLULAR LOCATION: Type II membrane protein. Also exists as an
CC       extracellular soluble form (By similarity).
CC   -!- PTM: The soluble form derives from the membrane form by
CC       proteolytic processing (By similarity).
CC   -!- PTM: The membrane form, but not the soluble form, is
CC       phosphorylated on serine residues. Dephosphorylation of the
CC       membrane form occurs by binding to soluble TNFRSF1A/TNFR1 (By
CC       similarity).
CC   -!- SIMILARITY: Belongs to the tumor necrosis factor family.
CC   ---------------------------------------------------------------------
CC   This Swiss-Prot entry is copyright. It is produced through a collaboration
CC   between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC   the European Bioinformatics Institute. There are no restrictions on its
CC   use as long as its content is in no way modified and this statement is not
CC   removed.
CC   ---------------------------------------------------------------------
DR   EMBL; AB054536; BAB83882.1; -; Genomic_DNA.
DR   EMBL; BA000041; BAC78157.1; -; Genomic_DNA.
DR   EMBL; AY091964; AAM76582.1; -; Genomic_DNA.
DR   HSSP; P01375; 4TSV.
DR   SMR; Q8HZD9; 81-232.
DR   InterPro; IPR006053; TNF_abc.
DR   InterPro; IPR002959; TNF_alpha.
DR   InterPro; IPR006052; TNF_family.
DR   InterPro; IPR003636; TNF_subf.
DR   PANTHER; PTHR11471:SF4; TNF_alpha; 1.
DR   Pfam; PF00229; TNF; 1.
DR   PRINTS; PR01234; TNECROSISFCT.
DR   PRINTS; PR01235; TNFALPHA.
DR   ProDom; PD002012; TNF_subf; 1.
DR   PROSITE; PS00251; TNF_1; 1.
DR   PROSITE; PS50049; TNF_2; 1.
KW   Cytokine; Phosphorylation; Signal-anchor; Transmembrane.
FT   CHAIN         1    232       Tumor necrosis factor, membrane form (By
FT                                 similarity).
FT   CHAIN        77    232       Tumor necrosis factor, soluble form (By
FT                                 similarity).
FT   TOPO_DOM      1     34       Cytoplasmic (Potential).
FT   TRANSMEM     35     57       Signal-anchor for type II membrane
FT                                 protein (By similarity).
FT   TOPO_DOM     58    232       Extracellular (Potential).
FT   SITE         76     77       Cleavage (by ADAM17) (By similarity).
FT   MOD_RES       2      2       Phosphoserine (by CK1) (By similarity).
FT   DISULFID    144    176       By similarity.
FT   CONFLICT     77     77       G -> VR (in Ref. 3).
SQ   SEQUENCE   232 AA;  25446 MW;  E4D71B19C6AE0D03 CRC64;

  Query Match             95.3%;  Score 768;  DB 1;  Length 232;
  Best Local Similarity   96.1%;  Pred. No. 4.4e-70;
  Matches  149;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          3 SSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYSQV 62
              |||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||
Db         78 SSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYSQV 137

Qy         63 LFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYLGG 122
              || |||||||||||||||||||||:||||||| ||||||||||||| ||||||||||
Db        138 LFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYLGG 197

Qy        123 VFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||| ||||||||||||||||||||||||||||||
Db        198 VFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 232


RESULT 5
TNFA_MACMU
ID   TNFA_MACMU     STANDARD;      PRT;   233 AA.
AC   P48094; Q5TM21; Q8HZD6;
DT   01-FEB-1996 (Rel. 33, Created)
DT   01-FEB-1996 (Rel. 33, Last sequence update)
DT   13-SEP-2005 (Rel. 48, Last annotation update)
DE   Tumor necrosis factor precursor (TNF-alpha) (Tumor necrosis factor
DE   ligand superfamily member 2) (TNF-a) (Cachectin) [Contains: Tumor
DE   necrosis factor, membrane form; Tumor necrosis factor, soluble form].
GN   Name=TNF; Synonyms=TNFA, TNFSF2;
OS   Macaca mulatta (Rhesus macaque).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini;
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OC   Cercopithecidae; Cercopithecinae; Macaca.
OX   NCBI_TaxID=9544;
RN   [1]
RP   NUCLEOTIDE SEQUENCE [MRNA].
RX   MEDLINE=96003435; PubMed=7561102;
RA   Villinger F.J., Brar S.S., Mayne A.E., Chikkala N., Ansari A.A.;
RT   "Comparative sequence analysis of cytokine genes from human and
RT   nonhuman primates.";
RL   J. Immunol. 155:3946-3954(1995).
RN   [2]
RP   NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].
RX   PubMed=15269276; DOI=10.1093/molbev/msh216;
RA   Kulski J.K., Anzai T., Shiina T., Inoko H.;
RT   "Rhesus macaque class I duplicon structures, organization, and
RT   evolution within the alpha block of the major histocompatibility
RT   complex.";
RL   Mol. Biol. Evol. 21:2079-2091(2004).
RN   [3]
RP   NUCLEOTIDE SEQUENCE [GENOMIC DNA] OF 33-187.
RA   O'Huigin C., Tichy H., Klein J.;
RT   "Molecular evolution in higher primates; gene specific and organism
RT   specific characteristics.";
RL   Submitted (MAR-2002) to the EMBL/GenBank/DDBJ databases.
CC   -!- FUNCTION: Cytokine that binds to TNFRSF1A/TNFR1 and
CC       TNFRSF1B/TNFBR. It is mainly secreted by macrophages and can
CC       induce cell death of certain tumor cell lines. It is potent
CC       pyrogen causing fever by direct action or by stimulation of
CC       interleukin 1 secretion and is implicated in the induction of
CC       cachexia, Under certain conditions it can stimulate cell
CC       proliferation and induce cell differentiation.
CC   -!- SUBUNIT: Homotrimer (By similarity).
CC   -!- SUBCELLULAR LOCATION: Type II membrane protein. Also exists as an
CC       extracellular soluble form (By similarity).
CC   -!- PTM: The soluble form derives from the membrane form by
CC       proteolytic processing (By similarity).
CC   -!- PTM: The membrane form, but not the soluble form, is
CC       phosphorylated on serine residues. Dephosphorylation of the
CC       membrane form occurs by binding to soluble TNFRSF1A/TNFR1 (By
CC       similarity).
CC   -!- SIMILARITY: Belongs to the tumor necrosis factor family.
CC   ---------------------------------------------------------------------
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CC   between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC   the European Bioinformatics Institute. There are no restrictions on its
CC   use as long as its content is in no way modified and this statement is not
CC   removed.
CC   ---------------------------------------------------------------------
DR   EMBL; U19850; AAA86712.1; -; mRNA.
DR   EMBL; AB128049; BAD69724.1; -; Genomic_DNA.
DR   EMBL; AY091967; AAM76585.1; -; Genomic_DNA.
DR   HSSP; P01375; 4TSV.
DR   SMR; P48094; 82-233.
DR   InterPro; IPR006053; TNF_abc.
DR   InterPro; IPR002959; TNF_alpha.
DR   InterPro; IPR006052; TNF_family.
DR   InterPro; IPR003636; TNF_subf.
DR   PANTHER; PTHR11471:SF4; TNF_alpha; 1.
DR   Pfam; PF00229; TNF; 1.
DR   PRINTS; PR01234; TNECROSISFCT.
DR   PRINTS; PR01235; TNFALPHA.
DR   ProDom; PD002012; TNF_subf; 1.
DR   SMART; SM00207; TNF; 1.
DR   PROSITE; PS00251; TNF_1; 1.
DR   PROSITE; PS50049; TNF_2; 1.
KW   Cytokine; Phosphorylation; Signal-anchor; Transmembrane.
FT   CHAIN         1    233       Tumor necrosis factor, membrane form.
FT   CHAIN        77    233       Tumor necrosis factor, soluble form.
FT   TOPO_DOM      1     35       Cytoplasmic (Potential).
FT   TRANSMEM     36     56       Signal-anchor for type II membrane
FT                                protein (Potential).
FT   TOPO_DOM     57    233       Extracellular (Potential).
FT   SITE         76     77       Cleavage (by ADAM17) (By similarity).
FT   MOD_RES       2      2       Phosphoserine (by CK1) (By similarity).
FT   DISULFID    145    177       By similarity.
SQ   SEQUENCE   233 AA;  25630 MW;  9F6F85050595FD59 CRC64;

  Query Match             94.2%;  Score 759;  DB 1;  Length 233;
  Best Local Similarity   94.3%;  Pred. No. 3.7e-69;
  Matches  148;  Conservative    1;  Mismatches    8;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| ||||||||||||||||||||||||||||||||| ||||||||||||||||
Db         77 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELTDNQLVVPSEGLYLIYS 136

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| |||||| ||||||||||||||||:|||||| |||||||||||| ||||||||
Db        137 QVLFKGQGCPSNHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 196

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||| ||||||||||||||||||
Db        197 GGVFQLEKGDRLSAEINLPDYLDFAESGQVYFGIIAL 233


RESULT 6
TNFA_MACFA
ID   TNFA_MACFA     STANDARD;      PRT;   233 AA.
AC   P79337;
DT   15-JUL-1998 (Rel. 36, Created)
DT   15-JUL-1998 (Rel. 36, Last sequence update)
DT   13-SEP-2005 (Rel. 48, Last annotation update)
DE   Tumor necrosis factor precursor (TNF-alpha) (Tumor necrosis factor
DE   ligand superfamily member 2) (TNF-a) (Cachectin) [Contains: Tumor
DE   necrosis factor, membrane form; Tumor necrosis factor, soluble form].
GN   Name=TNF; Synonyms=TNFA, TNFSF2;
OS   Macaca fascicularis (Crab eating macaque) (Cynomolgus monkey).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini;
OC   Cercopithecidae; Cercopithecinae; Macaca.
OX   NCBI_TaxID=9541;
RN   [1]
RP   NUCLEOTIDE SEQUENCE [MRNA].
RC   TISSUE=Lymphocyte;
RA   Tatsumi M.;
RT   "Molecular cloning and expression of cynomolgus monkey TNF-alpha.";
RL   Submitted (JAN-1997) to the EMBL/GenBank/DDBJ databases.
CC   -!- FUNCTION: Cytokine that binds to TNFRSF1A/TNFR1 and
CC       TNFRSF1B/TNFBR. It is mainly secreted by macrophages and can
CC       induce cell death of certain tumor cell lines. It is potent
CC       pyrogen causing fever by direct action or by stimulation of
CC       interleukin 1 secretion and is implicated in the induction of
CC       cachexia, Under certain conditions it can stimulate cell
CC       proliferation and induce cell differentiation.
CC   -!- SUBUNIT: Homotrimer (By similarity).
CC   -!- SUBCELLULAR LOCATION: Type II membrane protein. Also exists as an
CC       extracellular soluble form (By similarity).
CC   -!- PTM: The soluble form derives from the membrane form by
CC       proteolytic processing (By similarity).
CC   -!- PTM: The membrane form, but not the soluble form, is
CC       phosphorylated on serine residues. Dephosphorylation of the
CC       membrane form occurs by binding to soluble TNFRSF1A/TNFR1 (By
CC       similarity).
CC   -!- SIMILARITY: Belongs to the tumor necrosis factor family.
CC   ---------------------------------------------------------------------
CC   This Swiss-Prot entry is copyright. It is produced through a collaboration
CC   between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC   the European Bioinformatics Institute. There are no restrictions on its
CC   use as long as its content is in no way modified and this statement is not
CC   removed.
CC   ---------------------------------------------------------------------
DR   EMBL; AB000513; BAA19131.1; -; mRNA.
DR   HSSP; P01375; 4TSV.
DR   SMR; P79337; 82-233.
DR   InterPro; IPR006053; TNF_abc.
DR   InterPro; IPR002959; TNF_alpha.
DR   InterPro; IPR006052; TNF_family.
DR   InterPro; IPR003636; TNF_subf.
```

```
DR   PANTHER; PTHR11471:SF4; TNF_alpha; 1.
DR   Pfam; PF00229; TNF; 1.
DR   PRINTS; PR01234; TNECROSISFCT.
DR   PRINTS; PR01235; TNFALPHA.
DR   ProDom; PD002012; TNF_subf; 1.
DR   SMART; SM00207; TNF; 1.
DR   PROSITE; PS00251; TNF_1; 1.
DR   PROSITE; PS50049; TNF_2; 1.
KW   Cytokine; Phosphorylation; Signal-anchor; Transmembrane.
FT   CHAIN         1    233       Tumor necrosis factor, membrane form.
FT   CHAIN        77    233       Tumor necrosis factor, soluble form.
FT   TOPO_DOM      1     35       Cytoplasmic (Potential).
FT   TRANSMEM     36     56       Signal-anchor for type II membrane
FT                                protein (Potential).
FT   TOPO_DOM     57    233       Extracellular (Potential).
FT   SITE         76     77       Cleavage (by ADAM17) (By similarity).
FT   MOD_RES       2      2       Phosphoserine (by CK1) (By similarity).
FT   DISULFID    145    177       By similarity.
SQ   SEQUENCE   233 AA;  25558 MW;  6ABF2C3AB132C217 CRC64;

  Query Match             93.8%;  Score 756;  DB 1;  Length 233;
  Best Local Similarity   93.6%;  Pred. No. 7.4e-69;
  Matches  147;  Conservative    2;  Mismatches    8;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| |||||||||||||||||||||||||:|||||| ||||||||||||||||
Db         77 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALVANGVELTDNQLVVPSEGLYLIYS 136

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| |||||| |||||||||||||||:||||||| |||||||||||| ||||||||
Db        137 QVLFKGQGCPSNHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 196

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||| ||||||||||||||||||||
Db        197 GGVFQLEKGDRLSAEINLPDYLDFAESGQVYFGIIAL 233


RESULT 7
TNFA_PAPHU
ID   TNFA_PAPHU     STANDARD;      PRT;   233 AA.
AC   O77510;
DT   15-DEC-1998 (Rel. 37, Created)
DT   15-DEC-1998 (Rel. 37, Last sequence update)
DT   13-SEP-2005 (Rel. 48, Last annotation update)
DE   Tumor necrosis factor precursor (TNF-alpha) (Tumor necrosis factor
DE   ligand superfamily member 2) (TNF-a) (Cachectin) [Contains: Tumor
DE   necrosis factor, membrane form; Tumor necrosis factor, soluble form].
GN   Name=TNF; Synonyms=TNFA, TNFSF2;
OS   Papio hamadryas ursinus (Chacma baboon).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini;
OC   Cercopithecidae; Cercopithecinae; Papio.
OX   NCBI_TaxID=36229;
RN   [1]
RP   NUCLEOTIDE SEQUENCE [MRNA].
RX   MEDLINE=98147379; PubMed=9488055; DOI=10.1016/S0161-5890(97)00124-7;
RA   Haudek S.B., Redl H., Schlag G., Giroir B.P.;
RT   "Complementary DNA (cDNA) sequence of baboon tumor necrosis factor
RT   alpha.";
RL   Mol. Immunol. 34:1041-1042(1997).
CC   -!- FUNCTION: Cytokine that binds to TNFRSF1A/TNFR1 and
CC       TNFRSF1B/TNFBR. It is mainly secreted by macrophages and can
CC       induce cell death of certain tumor cell lines. It is potent
CC       pyrogen causing fever by direct action or by stimulation of
CC       interleukin 1 secretion and is implicated in the induction of
CC       cachexia, Under certain conditions it can stimulate cell
CC       proliferation and induce cell differentiation.
CC   -!- SUBUNIT: Homotrimer (By similarity).
CC   -!- SUBCELLULAR LOCATION: Type II membrane protein. Also exists as an
CC       extracellular soluble form (By similarity).
CC   -!- PTM: The soluble form derives from the membrane form by
CC       proteolytic processing (By similarity).
CC   -!- PTM: The membrane form, but not the soluble form, is
CC       phosphorylated on serine residues. Dephosphorylation of the
CC       membrane form occurs by binding to soluble TNFRSF1A/TNFR1 (By
CC       similarity).
CC   -!- SIMILARITY: Belongs to the tumor necrosis factor family.
CC   ---------------------------------------------------------------------
CC   This Swiss-Prot entry is copyright. It is produced through a collaboration
CC   between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC   the European Bioinformatics Institute. There are no restrictions on its
CC   use as long as its content is in no way modified and this statement is not
CC   removed.
CC   ---------------------------------------------------------------------
DR   EMBL; AF019963; AAC31675.1; -; mRNA.
DR   HSSP; P01375; 4TSV.
DR   SMR; O77510; 82-233.
DR   InterPro; IPR006053; TNF_abc.
DR   InterPro; IPR002959; TNF_alpha.
DR   InterPro; IPR006052; TNF_family.
DR   InterPro; IPR003636; TNF_subf.
DR   PANTHER; PTHR11471:SF4; TNF_alpha; 1.
DR   Pfam; PF00229; TNF; 1.
DR   PRINTS; PR01234; TNECROSISFCT.
DR   PRINTS; PR01235; TNFALPHA.
DR   ProDom; PD002012; TNF_subf; 1.
DR   SMART; SM00207; TNF; 1.
DR   PROSITE; PS00251; TNF_1; 1.
DR   PROSITE; PS50049; TNF_2; 1.
KW   Cytokine; Phosphorylation; Signal-anchor; Transmembrane.
FT   CHAIN         1    233       Tumor necrosis factor, membrane form.
FT   CHAIN        77    233       Tumor necrosis factor, soluble form.
FT   TOPO_DOM      1     35       Cytoplasmic (Potential).
FT   TRANSMEM     36     56       Signal-anchor for type II membrane
FT                                protein (Potential).
FT   TOPO_DOM     57    233       Extracellular (Potential).
FT   SITE         76     77       Cleavage (by ADAM17) (By similarity).
FT   MOD_RES       2      2       Phosphoserine (by CK1) (By similarity).
FT   DISULFID    145    177       By similarity.
SQ   SEQUENCE   233 AA;  25658 MW;  B9403255058D4A03 CRC64;

  Query Match             93.7%;  Score 755;  DB 1;  Length 233;
  Best Local Similarity   93.6%;  Pred. No. 9.4e-69;
  Matches  147;  Conservative    1;  Mismatches    9;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| || |||||||||||||||||||||||||||| ||||||||||||||||
Db         77 VRSSSRTPSDKPVVHVVANPQAEGQLQWLNRRANALLANGVELTDNQLVVPSEGLYLIYS 136

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| |||||| |||||||||||||||:||||||| |||||||||||| ||||||||
Db        137 QVLFKGQGCPSNHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 196

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||| ||||||||||||||||||||
Db        197 GGVFQLEKGDRLSAEINLPDYLDFAESGQVYFGIIAL 233


RESULT 8
TNFA_PAPAN
ID   TNFA_PAPAN     STANDARD;      PRT;   233 AA.
AC   P59695;
DT   10-OCT-2003 (Rel. 42, Created)
DT   10-OCT-2003 (Rel. 42, Last sequence update)
DT   13-SEP-2005 (Rel. 48, Last annotation update)
DE   Tumor necrosis factor precursor (TNF-alpha) (Tumor necrosis factor
DE   ligand superfamily member 2) (TNF-a) (Cachectin) [Contains: Tumor
DE   necrosis factor, membrane form; Tumor necrosis factor, soluble form].
GN   Name=TNF; Synonyms=TNFA, TNFSF2;
OS   Papio anubis (Olive baboon).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini;
OC   Cercopithecidae; Cercopithecinae; Papio.
OX   NCBI_TaxID=9555;
RN   [1]
RP   NUCLEOTIDE SEQUENCE.
```

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RX   MEDLINE=21383618; PubMed=11491535; DOI=10.1007/s002510100322;
RA   Villinger F.J., Bostik P., Mayne A.E., King C.L., Genain C.P.,
RA   Weiss W.R., Ansari A.A.;
RT   "Cloning, sequencing, and homology analysis of nonhuman primate
RT   Fas/Fas-ligand and co-stimulatory molecules.";
RL   Immunogenetics 53:315-328(2001).
CC   -!- FUNCTION: Cytokine that binds to TNFRSF1A/TNFR1 and
CC       TNFRSF1B/TNFBR. It is mainly secreted by macrophages and can
CC       induce cell death of certain tumor cell lines. It is potent
CC       pyrogen causing fever by direct action or by stimulation of
CC       interleukin 1 secretion and is implicated in the induction of
CC       cachexia, Under certain conditions it can stimulate cell
CC       proliferation and induce cell differentiation (By similarity).
CC   -!- SUBUNIT: Homotrimer (By similarity).
CC   -!- SUBCELLULAR LOCATION: Type II membrane protein. Also exists as an
CC       extracellular soluble form (By similarity).
CC   -!- PTM: The soluble form derives from the membrane form by
CC       proteolytic processing (By similarity).
CC   -!- PTM: The membrane form, but not the soluble form, is
CC       phosphorylated on serine residues. Dephosphorylation of the
CC       membrane form occurs by binding to soluble TNFRSF1A/TNFR1 (By
CC       similarity).
CC   -!- SIMILARITY: Belongs to the tumor necrosis factor family.
CC   ---------------------------------------------------------------------
CC   This Swiss-Prot entry is copyright. It is produced through a collaboration
CC   between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC   the European Bioinformatics Institute. There are no restrictions on its
CC   use as long as its content is in no way modified and this statement is not
CC   removed.
CC   ---------------------------------------------------------------------
DR   EMBL; AY234222; AAO85335.1; -; mRNA.
DR   HSSP; P01375; 4TSV.
DR   SMR; P59695; 82-233.
DR   InterPro; IPR006053; TNF_abc.
DR   InterPro; IPR002959; TNF_alpha.
DR   InterPro; IPR006052; TNF_family.
DR   InterPro; IPR003636; TNF_subf.
DR   PANTHER; PTHR11471:SF4; TNF_alpha; 1.
DR   Pfam; PF00229; TNF; 1.
DR   PRINTS; PR01234; TNECROSISFCT.
DR   PRINTS; PR01235; TNFALPHA.
DR   ProDom; PD002012; TNF_subf; 1.
DR   SMART; SM00207; TNF; 1.
DR   PROSITE; PS00251; TNF_1; 1.
DR   PROSITE; PS50049; TNF_2; 1.
KW   Cytokine; Phosphorylation; Signal-anchor; Transmembrane.
FT   CHAIN         1    233       Tumor necrosis factor, membrane form (By
FT                                similarity).
FT   CHAIN        77    233       Tumor necrosis factor, soluble form (By
FT                                similarity).
FT   TOPO_DOM      1     34       Cytoplasmic (Potential).
FT   TRANSMEM     35     57       Signal-anchor for type II membrane
FT                                protein (By similarity).
FT   TOPO_DOM     58    233       Extracellular (Potential).
FT   SITE         76     77       Cleavage (by ADAM17) (By similarity).
FT   MOD_RES       2      2       Phosphoserine (by CK1) (By similarity).
FT   DISULFID    145    177       By similarity.
SQ   SEQUENCE   233 AA;  25736 MW;  0C477F9EB6CC9909 CRC64;

  Query Match             93.3%;  Score 752;  DB 1;  Length 233;
  Best Local Similarity   93.6%;  Pred. No. 1.9e-68;
  Matches  147;  Conservative    1;  Mismatches    9;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| |||||||||||||||||||||||||||||  ||||||||||||||||
Db         77 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVEPTDNQLVVPSEGLYLIYS 136

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| |||||| |||||||||||||||:||||||| |||||||||||| ||||||||
Db        137 QVLFKGQGCPSNHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 196

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||| ||||||||||||||||||||
Db        197 GGVFQLEKGDRLSAEINLPDYLDFAESGQVYFGIIAL 233


RESULT 9
O97543_AOTNA
ID   O97543_AOTNA PRELIMINARY;      PRT;   149 AA.
AC   O97543;
DT   01-MAY-1999 (TrEMBLrel. 10, Created)
DT   01-MAY-1999 (TrEMBLrel. 10, Last sequence update)
DT   01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
DE   Tumor necrosis factor alpha (Fragment).
GN   Name=TNF-alpha;
OS   Aotus nancymaae (Ma's night monkey).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Euarchontoglires; Primates; Platyrrhini; Cebidae;
OC   Aotinae; Aotus.
OX   NCBI_TaxID=37293;
RN   [1]
RP   NUCLEOTIDE SEQUENCE.
RX   MEDLINE=22354194; PubMed=12466897; DOI=10.1007/s00251-002-0512-2;
RA   Hernandez E.C., Suarez C.F., Mendez J.A., Echeverry S.J.,
RA   Murillo L.A., Patarroyo M.E.;
RT   "Identification, cloning, and sequencing of different cytokine genes
RT   in four species of owl monkey.";
RL   Immunogenetics 54:645-653(2002).
DR   EMBL; AF014513; AAD01539.1; -; mRNA.
DR   HSSP; P01375; 4TSV.
DR   SMR; O97543; 1-149.
DR   GO; GO:0016020; C:membrane; IEA.
DR   GO; GO:0005164; F:tumor necrosis factor receptor binding; IEA.
DR   GO; GO:0006955; P:immune response; IEA.
DR   InterPro; IPR006053; TNF_abc.
DR   InterPro; IPR002959; TNF_alpha.
DR   InterPro; IPR006052; TNF_family.
DR   InterPro; IPR003636; TNF_subf.
DR   Pfam; PF00229; TNF; 1.
DR   PRINTS; PR01234; TNECROSISFCT.
DR   PRINTS; PR01235; TNFALPHA.
DR   ProDom; PD002012; TNF_subf; 1.
DR   SMART; SM00207; TNF; 1.
DR   PROSITE; PS00251; TNF_1; 1.
DR   PROSITE; PS50049; TNF_2; 1.
FT   NON_TER       1     1
FT   NON_TER     149   149
SQ   SEQUENCE   149 AA;  16466 MW;  3C2A6140778EFA8A CRC64;

  Query Match             92.1%;  Score 742;  DB 2;  Length 149;
  Best Local Similarity   96.0%;  Pred. No. 1.2e-67;
  Matches  143;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          8 PSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYSQVLFSGQ 67
              ||| |||||||||||||||||||||||||||||||||||||||||||||||||||| ||
Db          1 PSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYSQVLFKGQ 60

Qy         68 GCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYLGGVFQLE 127
              |||||||||||||||||||||:||||||| |||||||||||| ||||||||||||||
Db         61 GCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYLGGVFQLE 120

Qy        128 TGDRLSAEINRPDYLDFAESGQVYFGIIA 156
              |||||||||||||||||||||||||||||
Db        121 KGDRLSAEINRPDYLDFAESGQVYFGIIA 149


RESULT 10
TNFA_CANFA
ID   TNFA_CANFA     STANDARD;      PRT;   233 AA.
AC   P51742; Q28339;
DT   01-OCT-1996 (Rel. 34, Created)
DT   01-OCT-1996 (Rel. 34, Last sequence update)
DT   13-SEP-2005 (Rel. 48, Last annotation update)
DE   Tumor necrosis factor precursor (TNF-alpha) (Tumor necrosis factor
DE   ligand superfamily member 2) (TNF-a) (Cachectin) [Contains: Tumor
DE   necrosis factor, membrane form; Tumor necrosis factor, soluble form].
```

```
GN   Name=TNF; Synonyms=TNFA, TNFSF2;
OS   Canis familiaris (Dog).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Laurasiatheria; Carnivora; Fissipedia; Canidae;
OC   Canis.
OX   NCBI_TaxID=9615;
RN   [1]
RP   NUCLEOTIDE SEQUENCE [GENOMIC DNA].
RA   Fiers W.;
RT   "Tumour necrosis factor.";
RL   (In) Sim E. (eds.);
RL   The natural immune system humoral factors, pp.65-119, IRL Press,
RL   Oxford (1993).
RN   [2]
RP   NUCLEOTIDE SEQUENCE [MRNA].
RA   Zucker K., Lu P., Fuller L., Asthana D., Esquenazi V., Miller J.;
RT   "Cloning and expression of the cDNA for canine tumor necrosis factor-
RT   alpha in E. coli.";
RL   Lymphokine Res. 13:191-196(1994).
RN   [3]
RP   NUCLEOTIDE SEQUENCE [GENOMIC DNA].
RA   Wagner J.L., Palti Y., DiDario D.D.;
RT   "Genomic map of a portion of the canine MHC class I histocompatibility
RT   complex.";
RL   Submitted (SEP-2003) to the EMBL/GenBank/DDBJ databases.
RN   [4]
RP   NUCLEOTIDE SEQUENCE [MRNA] OF 74-205.
RC   STRAIN=Beagle; TISSUE=Blood;
RA   Gilmore W.H., Carter S.D., Bennett M., Barnes A., Kelly D.F.;
RT   "Expression of canine TNF, IL-1 and IL-6 mRNAs in peripheral blood
RT   monocytes and cell lines.";
RL   Submitted (MAR-1996) to the EMBL/GenBank/DDBJ databases.
CC   -!- FUNCTION: Cytokine that binds to TNFRSF1A/TNFR1 and
CC       TNFRSF1B/TNFBR. It is mainly secreted by macrophages and can
CC       induce cell death of certain tumor cell lines. It is potent
CC       pyrogen causing fever by direct action or by stimulation of
CC       interleukin 1 secretion and is implicated in the induction of
CC       cachexia, Under certain conditions it can stimulate cell
CC       proliferation and induce cell differentiation.
CC   -!- SUBUNIT: Homotrimer (By similarity).
CC   -!- SUBCELLULAR LOCATION: Type II membrane protein. Also exists as an
CC       extracellular soluble form (By similarity).
CC   -!- PTM: The soluble form derives from the membrane form by
CC       proteolytic processing (By similarity).
CC   -!- PTM: The membrane form, but not the soluble form, is
CC       phosphorylated on serine residues. Dephosphorylation of the
CC       membrane form occurs by binding to soluble TNFRSF1A/TNFR1 (By
CC       similarity).
CC   -!- SIMILARITY: Belongs to the tumor necrosis factor family.
CC   ---------------------------------------------------------------------
CC   This Swiss-Prot entry is copyright. It is produced through a collaboration
CC   between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC   the European Bioinformatics Institute. There are no restrictions on its
CC   use as long as its content is in no way modified and this statement is not
CC   removed.
CC   ---------------------------------------------------------------------
DR   EMBL; X94932; CAA64403.1; -; Genomic_DNA.
DR   EMBL; S74068; AAB32391.1; -; mRNA.
DR   EMBL; AY423389; AAR27885.1; -; Genomic_DNA.
DR   EMBL; Z70046; CAA93908.1; -; mRNA.
DR   HSSP; P01375; 4TSV.
DR   SMR; P51742; 82-233.
DR   Ensembl; ENSCAFG00000000517; Canis familiaris.
DR   InterPro; IPR006053; TNF_abc.
DR   InterPro; IPR002959; TNF_alpha.
DR   InterPro; IPR006052; TNF_family.
DR   InterPro; IPR003636; TNF_subf.
DR   PANTHER; PTHR11471:SF4; TNF_alpha; 1.
DR   Pfam; PF00229; TNF; 1.
DR   PRINTS; PR01234; TNECROSISFCT.
DR   PRINTS; PR01235; TNFALPHA.
DR   ProDom; PD002012; TNF_subf; 1.
DR   SMART; SM00207; TNF; 1.
DR   PROSITE; PS00251; TNF_1; 1.
DR   PROSITE; PS50049; TNF_2; 1.
KW   Cytokine; Phosphorylation; Signal-anchor; Transmembrane.
FT   CHAIN        1    233       Tumor necrosis factor, membrane form.
FT   CHAIN       77    233       Tumor necrosis factor, soluble form.
FT   TOPO_DOM     1     35       Cytoplasmic (Potential).
FT   TRANSMEM    36     56       Signal-anchor for type II membrane
FT                               protein (Potential).
FT   TOPO_DOM    57    233       Extracellular (Potential).
FT   SITE        76     77       Cleavage (by ADAM17) (By similarity).
FT   MOD_RES      2      2       Phosphoserine (by CK1) (By similarity).
FT   DISULFID   145    177       By similarity.
FT   CONFLICT    59     60       QR -> PE (in Ref. 2).
FT   CONFLICT    66     66       G -> C (in Ref. 2).
FT   CONFLICT    74     74       A -> V (in Ref. 4).
FT   CONFLICT   111    111       A -> D (in Ref. 2).
FT   CONFLICT   116    116       G -> D (in Ref. 2).
FT   CONFLICT   134    135       IY -> DS (in Ref. 2).
SQ   SEQUENCE   233 AA;  25447 MW;  7B2588FBC8B25340 CRC64;

  Query Match             91.3%;  Score 736;  DB 1;  Length 233;
  Best Local Similarity   89.8%;  Pred. No. 8.3e-67;
  Matches  141;  Conservative    7;  Mismatches    9;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |:|||||||| |||||||||:|||||||:|||||||||||||| ||||:|||:|||||||
Db         77 VKSSSRTPSDKPVAHVVANPEAEGQLQWLSRRANALLANGVELTDNQLIVPSDGLYLIYS 136

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| |||||||||||||||| ||||||:||||||| |||||||||| || ||||||||
Db        137 QVLFKGQGCPSTHVLLTHTISRFAVSYQTKVNLLSAIKSPCQRETPEGTEAKPWYEPIYL 196

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||| |:||||||||||||||||||
Db        197 GGVFQLEKGDRLSAEINLPNYLDFAESGQVYFGIIAL 233


RESULT 11
TNFA_FELCA
ID   TNFA_FELCA     STANDARD;      PRT;   233 AA.
AC   P19101; Q8HYM0;
DT   01-NOV-1990 (Rel. 16, Created)
DT   10-OCT-2003 (Rel. 42, Last sequence update)
DT   13-SEP-2005 (Rel. 48, Last annotation update)
DE   Tumor necrosis factor precursor (TNF-alpha) (Tumor necrosis factor
DE   ligand superfamily member 2) (TNF-a) (Cachectin) [Contains: Tumor
DE   necrosis factor, membrane form; Tumor necrosis factor, soluble form].
GN   Name=TNF; Synonyms=TNFA, TNFSF2;
OS   Felis silvestris catus (Cat).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Laurasiatheria; Carnivora; Fissipedia; Felidae;
OC   Felinae; Felis.
OX   NCBI_TaxID=9685;
RN   [1]
RP   NUCLEOTIDE SEQUENCE.
RC   TISSUE=Blood;
RX   MEDLINE=91016860; PubMed=2216740;
RA   McGraw R.A., Coffee B.W., Otto C.M., Drews R.T., Rawlings C.A.;
RT   "Gene sequence of feline tumor necrosis factor alpha.";
RL   Nucleic Acids Res. 18:5563-5563(1990).
RN   [2]
RP   NUCLEOTIDE SEQUENCE [MRNA].
RC   TISSUE=Bone marrow;
RA   Daniel S.L., Brenner C.A., Legendre A.M., Soloman A., Rouse B.T.;
RT   "Feline cytokines TNF alpha and IL-1 beta: PCR cloning and sequencing
RT   of cDNA.";
RL   Anim. Biotechnol. 3:117-121(1992).
RN   [3]
RP   NUCLEOTIDE SEQUENCE OF 95-185.
RA   Susott E.E., Rollo W.A., Venta P.J., Ewart S.L.;
RT   "Characterization of 8 feline type I markers.";
RL   Submitted (DEC-2001) to the EMBL/GenBank/DDBJ databases.
CC   -!- FUNCTION: Cytokine that binds to TNFRSF1A/TNFR1 and
```

```
CC       TNFRSF1B/TNFBR. It is mainly secreted by macrophages and can
CC       induce cell death of certain tumor cell lines. It is potent
CC       pyrogen causing fever by direct action or by stimulation of
CC       interleukin 1 secretion and is implicated in the induction of
CC       cachexia, Under certain conditions it can stimulate cell
CC       proliferation and induce cell differentiation.
CC   -!- SUBUNIT: Homotrimer (By similarity).
CC   -!- SUBCELLULAR LOCATION: Type II membrane protein. Also exists as an
CC       extracellular soluble form (By similarity).
CC   -!- PTM: The soluble form derives from the membrane form by
CC       proteolytic processing (By similarity).
CC   -!- PTM: The membrane form, but not the soluble form, is
CC       phosphorylated on serine residues. Dephosphorylation of the
CC       membrane form occurs by binding to soluble TNFRSF1A/TNFR1 (By
CC       similarity).
CC   -!- SIMILARITY: Belongs to the tumor necrosis factor family.
CC   ---------------------------------------------------------------------
CC   This Swiss-Prot entry is copyright. It is produced through a collaboration
CC   between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC   the European Bioinformatics Institute. There are no restrictions on its
CC   use as long as its content is in no way modified and this statement is not
CC   removed.
CC   ---------------------------------------------------------------------
DR   EMBL; X54000; CAA37948.1; -; Genomic_DNA.
DR   EMBL; M92061; AAA30818.1; -; mRNA.
DR   EMBL; AF459810; AAO15590.1; -; Genomic_DNA.
DR   PIR; S11688; S11688.
DR   HSSP; P01375; 4TSV.
DR   SMR; P19101; 82-233.
DR   InterPro; IPR006053; TNF_abc.
DR   InterPro; IPR002959; TNF_alpha.
DR   InterPro; IPR006052; TNF_family.
DR   InterPro; IPR003636; TNF_subf.
DR   PANTHER; PTHR11471:SF4; TNF_alpha; 1.
DR   Pfam; PF00229; TNF; 1.
DR   PRINTS; PR01234; TNECROSISFCT.
DR   PRINTS; PR01235; TNFALPHA.
DR   ProDom; PD002012; TNF_subf; 1.
DR   SMART; SM00207; TNF; 1.
DR   PROSITE; PS00251; TNF_1; 1.
DR   PROSITE; PS50049; TNF_2; 1.
KW   Cytokine; Phosphorylation; Signal-anchor; Transmembrane.
FT   CHAIN         1    233       Tumor necrosis factor, membrane form.
FT   CHAIN        77    233       Tumor necrosis factor, soluble form.
FT   TOPO_DOM      1     35       Cytoplasmic (Potential).
FT   TRANSMEM     36     56       Signal-anchor for type II membrane
FT                                 protein (Potential).
FT   TOPO_DOM     57    233       Extracellular (Potential).
FT   SITE         76     77       Cleavage (by ADAM17) (By similarity).
FT   MOD_RES       2      2       Phosphoserine (by CK1) (By similarity).
FT   DISULFID    145    177       By similarity.
FT   CONFLICT     28     28       G -> R (in Ref. 2).
FT   CONFLICT    104    104       W -> R (in Ref. 1).
FT   CONFLICT    141    141       T -> K (in Ref. 3).
FT   CONFLICT    151    151       L -> H (in Ref. 2).
FT   CONFLICT    155    155       T -> A (in Ref. 1).
FT   CONFLICT    210    210       T -> A (in Ref. 2).
SQ   SEQUENCE   233 AA;  25382 MW;  03E51823A7863510 CRC64;

  Query Match             90.4%;  Score 729;  DB 1;  Length 233;
  Best Local Similarity   89.8%;  Pred. No. 4.3e-66;
  Matches  141;  Conservative    6;  Mismatches   10;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              :|||||||||| |||||||||:||||||||:|||||||||||| |||| |||:|||||||
Db         77 LRSSSRTPSDKPVAHVVANPEAEGQLQWLSRRANALLANGVELTDNQLKVPSDGLYLIYS 136

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              ||||:|||||||||||||||| |||||||:||||||| |||||||||||| ||||||||
Db        137 QVLFTGQGCPSTHVLLTHTISRFAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 196

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||| ||| | ||||||||||||||||||
Db        197 GGVFQLEKGDRLSTEINLPAYLDFAESGQVYFGIIAL 233


RESULT 12
TNFA_SAISC
ID   TNFA_SAISC     STANDARD;      PRT;   233 AA.
AC   Q8MKG8;
DT   10-OCT-2003 (Rel. 42, Created)
DT   10-OCT-2003 (Rel. 42, Last sequence update)
DT   13-SEP-2005 (Rel. 48, Last annotation update)
DE   Tumor necrosis factor precursor (TNF-alpha) (Tumor necrosis factor
DE   ligand superfamily member 2) (TNF-a) (Cachectin) [Contains: Tumor
DE   necrosis factor, membrane form; Tumor necrosis factor, soluble form].
GN   Name=TNF; Synonyms=TNFA, TNFSF2;
OS   Saimiri sciureus (Common squirrel monkey).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Euarchontoglires; Primates; Platyrrhini; Cebidae;
OC   Cebinae; Saimiri.
OX   NCBI_TaxID=9521;
RN   [1]
RP   NUCLEOTIDE SEQUENCE.
RX   MEDLINE=21972723; PubMed=11976788; DOI=10.1007/s00251-002-0443-y;
RA   Heraud J.M., Lavergne A., Kazanji M.;
RT   "Molecular cloning, characterization, and quantification of squirrel
RT   monkey (Saimiri sciureus) Th1 and Th2 cytokines.";
RL   Immunogenetics 54:20-29(2002).
RN   [2]
RP   NUCLEOTIDE SEQUENCE.
RX   MEDLINE=22516846; PubMed=12628762; DOI=10.1016/S0165-2427(03)00018-7;
RA   Merien F., Lavergne A., Behr C., Contamin H.;
RT   "Sequencing and analysis of genomic DNA and cDNA encoding TNF-alpha in
RT   the squirrel monkey (Saimiri sciureus).";
RL   Vet. Immunol. Immunopathol. 92:37-43(2003).
CC   -!- FUNCTION: Cytokine that binds to TNFRSF1A/TNFR1 and
CC       TNFRSF1B/TNFBR. It is mainly secreted by macrophages and can
CC       induce cell death of certain tumor cell lines. It is potent
CC       pyrogen causing fever by direct action or by stimulation of
CC       interleukin 1 secretion and is implicated in the induction of
CC       cachexia, Under certain conditions it can stimulate cell
CC       proliferation and induce cell differentiation (By similarity).
CC   -!- SUBUNIT: Homotrimer (By similarity).
CC   -!- SUBCELLULAR LOCATION: Type II membrane protein. Also exists as an
CC       extracellular soluble form (By similarity).
CC   -!- PTM: The soluble form derives from the membrane form by
CC       proteolytic processing (By similarity).
CC   -!- PTM: The membrane form, but not the soluble form, is
CC       phosphorylated on serine residues. Dephosphorylation of the
CC       membrane form occurs by binding to soluble TNFRSF1A/TNFR1 (By
CC       similarity).
CC   -!- SIMILARITY: Belongs to the tumor necrosis factor family.
CC   ---------------------------------------------------------------------
CC   This Swiss-Prot entry is copyright. It is produced through a collaboration
CC   between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC   the European Bioinformatics Institute. There are no restrictions on its
CC   use as long as its content is in no way modified and this statement is not
CC   removed.
CC   ---------------------------------------------------------------------
DR   EMBL; AF294760; AAK92047.1; -; mRNA.
DR   EMBL; AJ437697; CAD27179.1; -; Genomic_DNA.
DR   EMBL; AJ437698; CAD27180.1; -; mRNA.
DR   HSSP; P01375; 4TSV.
DR   SMR; Q8MKG8; 82-233.
DR   InterPro; IPR006053; TNF_abc.
DR   InterPro; IPR002959; TNF_alpha.
DR   InterPro; IPR006052; TNF_family.
DR   InterPro; IPR003636; TNF_subf.
DR   PANTHER; PTHR11471:SF4; TNF_alpha; 1.
DR   Pfam; PF00229; TNF; 1.
DR   PRINTS; PR01234; TNECROSISFCT.
DR   PRINTS; PR01235; TNFALPHA.
DR   ProDom; PD002012; TNF_subf; 1.
DR   SMART; SM00207; TNF; 1.
DR   PROSITE; PS00251; TNF_1; 1.
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DR   PROSITE; PS50049; TNF_2; 1.
KW   Cytokine; Phosphorylation; Signal-anchor; Transmembrane.
FT   CHAIN         1    233       Tumor necrosis factor, membrane form (By
FT                                similarity).
FT   CHAIN        77    233       Tumor necrosis factor, soluble form (By
FT                                similarity).
FT   TOPO_DOM      1     32       Cytoplasmic (Potential).
FT   TRANSMEM     33     55       Signal-anchor for type II membrane
FT                                protein (By similarity).
FT   TOPO_DOM     56    233       Extracellular (Potential).
FT   SITE         76     77       Cleavage (by ADAM17) (By similarity).
FT   MOD_RES       2      2       Phosphoserine (by CK1) (By similarity).
FT   DISULFID    145    177       By similarity.
SQ   SEQUENCE   233 AA;  25578 MW;  197FB066F744FCAD CRC64;

  Query Match             87.3%;  Score 704;  DB 1;  Length 233;
  Best Local Similarity   87.3%;  Pred. No. 1.6e-63;
  Matches  137;  Conservative    6;  Mismatches   14;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              ||||||| ||| ||||||||||||||||||||||||||||||||||||:||||:||
Db         77 VRSSSRIPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSDGLYLVYS 136

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| |||||||  ||||:|||||||| :||||||| |||||||| ||:  ||||||||
Db        137 QVLFKGQGCPSTFTLLTHSISRIAVSYQAKVNLLSAIKSPCQRETPRGAKTHPWYEPIYL 196

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||: || || ||||||||||||
Db        197 GGVFQLEKGDRLSAEISPPDSLDLAESGQVYFGIIAL 233


RESULT 13
TNFA_HORSE
ID   TNFA_HORSE     STANDARD;      PRT;   234 AA.
AC   P29553; Q9TTJ3;
DT   01-APR-1993 (Rel. 25, Created)
DT   01-APR-1993 (Rel. 25, Last sequence update)
DT   13-SEP-2005 (Rel. 48, Last annotation update)
DE   Tumor necrosis factor precursor (TNF-alpha) (Tumor necrosis factor
DE   ligand superfamily member 2) (TNF-a) (Cachectin) [Contains: Tumor
DE   necrosis factor, membrane form; Tumor necrosis factor, soluble form].
GN   Name=TNF; Synonyms=TNFA, TNFSF2;
OS   Equus caballus (Horse).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Laurasiatheria; Perissodactyla; Equidae; Equus.
OX   NCBI_TaxID=9796;
RN   [1]
RP   NUCLEOTIDE SEQUENCE.
RX   MEDLINE=92084125; PubMed=1748301; DOI=10.1016/0378-1119(91)90333-7;
RA   Su X., Morris D.D., McGraw R.A.;
RT   "Cloning and characterization of gene TNF alpha encoding equine tumor
RT   necrosis factor alpha.";
RL   Gene 107:319-321(1991).
RN   [2]
RP   NUCLEOTIDE SEQUENCE.
RC   STRAIN=Thoroughbred; TISSUE=Artery;
RA   Ishida N., Sato F., Hasegawa T.;
RT   "Molecular cloning of equine tumor necrosis factor-alpha mRNA.";
RL   Submitted (DEC-1999) to the EMBL/GenBank/DDBJ databases.
CC   -!- FUNCTION: Cytokine that binds to TNFRSF1A/TNFR1 and
CC       TNFRSF1B/TNFBR. It is mainly secreted by macrophages and can
CC       induce cell death of certain tumor cell lines. It is potent
CC       pyrogen causing fever by direct action or by stimulation of
CC       interleukin 1 secretion and is implicated in the induction of
CC       cachexia, Under certain conditions it can stimulate cell
CC       proliferation and induce cell differentiation.
CC   -!- SUBUNIT: Homotrimer (By similarity).
CC   -!- SUBCELLULAR LOCATION: Type II membrane protein. Also exists as an
CC       extracellular soluble form (By similarity).
CC   -!- PTM: The soluble form derives from the membrane form by
CC       proteolytic processing (By similarity).
CC   -!- PTM: The membrane form, but not the soluble form, is
CC       phosphorylated on serine residues. Dephosphorylation of the
CC       membrane form occurs by binding to soluble TNFRSF1A/TNFR1 (By
CC       similarity).
CC   -!- SIMILARITY: Belongs to the tumor necrosis factor family.
CC   ---------------------------------------------------------------------
CC   This Swiss-Prot entry is copyright. It is produced through a collaboration
CC   between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC   the European Bioinformatics Institute. There are no restrictions on its
CC   use as long as its content is in no way modified and this statement is not
CC   removed.
CC   ---------------------------------------------------------------------
DR   EMBL; M64087; AAA30959.1; -; Genomic_DNA.
DR   EMBL; AB035735; BAA88349.1; -; mRNA.
DR   PIR; JQ1344; JQ1344.
DR   HSSP; P01375; 1A8M.
DR   SMR; P29553; 83-234.
DR   InterPro; IPR006053; TNF_abc.
DR   InterPro; IPR002959; TNF_alpha.
DR   InterPro; IPR006052; TNF_family.
DR   InterPro; IPR003636; TNF_subf.
DR   PANTHER; PTHR11471:SF4; TNF_alpha; 1.
DR   Pfam; PF00229; TNF; 1.
DR   PRINTS; PR01234; TNECROSISFCT.
DR   PRINTS; PR01235; TNFALPHA.
DR   ProDom; PD002012; TNF_subf; 1.
DR   SMART; SM00207; TNF; 1.
DR   PROSITE; PS00251; TNF_1; 1.
DR   PROSITE; PS50049; TNF_2; 1.
KW   Cytokine; Phosphorylation; Signal-anchor; Transmembrane.
FT   CHAIN         1    234       Tumor necrosis factor, membrane form.
FT   CHAIN        78    234       Tumor necrosis factor, soluble form.
FT   TOPO_DOM      1     35       Cytoplasmic (Potential).
FT   TRANSMEM     36     56       Signal-anchor for type II membrane
FT                                protein (Potential).
FT   TOPO_DOM     57    234       Extracellular (Potential).
FT   SITE         77     78       Cleavage (by ADAM17) (By similarity).
FT   MOD_RES       2      2       Phosphoserine (by CK1) (By similarity).
FT   DISULFID    146    178       By similarity.
FT   CONFLICT    177    179       PCH -> LAN (in Ref. 2).
SQ   SEQUENCE   234 AA;  25469 MW;  E79ACE91143DF373 CRC64;

  Query Match             86.2%;  Score 695;  DB 1;  Length 234;
  Best Local Similarity   85.4%;  Pred. No. 1.3e-62;
  Matches  134;  Conservative   11;  Mismatches   12;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              :|||||||| |||||||||||||||: |||||||||:| ||||||| :|||||||
Db         78 LRSSSRTPSDKPVAHVVANPQAEGQLQWLSGRANALLANGVKLTDNQLVVPLDGLYLIYS 137

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| ||||||||||||||:|||| ::||||||| |||  |:|| ||| ||||||||
Db        138 QVLFKGQGCPSTHVLLTHTISRLAVSYPSKVNLLSAIKSPCHTESPEQAEAKPWYEPIYL 197

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||:||||||:|:||||||||||||||||
Db        198 GGVFQLEKGDQLSAEINQPNYLDFAESGQVYFGIIAL 234


RESULT 14
O97538_AOTVO
ID   O97538_AOTVO PRELIMINARY;      PRT;   149 AA.
AC   O97538;
DT   01-MAY-1999 (TrEMBLrel. 10, Created)
DT   01-MAY-1999 (TrEMBLrel. 10, Last sequence update)
DT   01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
DE   Tumor necrosis factor alpha (Fragment).
GN   Name=TNF-alpha;
OS   Aotus vociferans (Spix's owl monkey).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Euarchontoglires; Primates; Platyrrhini; Cebidae;
OC   Aotinae; Aotus.
OX   NCBI_TaxID=57176;
RN   [1]
```

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RP   NUCLEOTIDE SEQUENCE.
RX   MEDLINE=22354194; PubMed=12466897; DOI=10.1007/s00251-002-0512-2;
RA   Hernandez E.C., Suarez C.F., Mendez J.A., Echeverry S.J.,
RA   Murillo L.A., Patarroyo M.E.;
RT   "Identification, cloning, and sequencing of different cytokine genes
RT   in four species of owl monkey.";
RL   Immunogenetics 54:645-653(2002).
DR   EMBL; AF014508; AAD01534.1; -; mRNA.
DR   HSSP; P01375; 4TSV.
DR   SMR; O97538; 1-149.
DR   GO; GO:0016020; C:membrane; IEA.
DR   GO; GO:0005164; F:tumor necrosis factor receptor binding; IEA.
DR   GO; GO:0006955; P:immune response; IEA.
DR   InterPro; IPR006053; TNF_abc.
DR   InterPro; IPR002959; TNF_alpha.
DR   InterPro; IPR006052; TNF_family.
DR   InterPro; IPR003636; TNF_subf.
DR   Pfam; PF00229; TNF; 1.
DR   PRINTS; PR01234; TNECROSISFCT.
DR   PRINTS; PR01235; TNFALPHA.
DR   ProDom; PD002012; TNF_subf; 1.
DR   SMART; SM00207; TNF; 1.
DR   PROSITE; PS00251; TNF_1; 1.
DR   PROSITE; PS50049; TNF_2; 1.
FT   NON_TER       1      1
FT   NON_TER     149    149
SQ   SEQUENCE   149 AA;  16415 MW;  86F1B9BCED16E689 CRC64;

  Query Match             86.0%;  Score 693;  DB 2;  Length 149;
  Best Local Similarity   89.3%;  Pred. No. 1.2e-62;
  Matches  133;  Conservative    5;  Mismatches   11;  Indels    0;  Gaps    0;

Qy          8 PSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYSQVLFSGQ 67
              ||| ||||||||||||||||||||||||||||||||||||||||||:|||||| ||
Db          1 PSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLVYSQVLFKGQ 60

Qy         68 GCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYLGGVFQLE 127
              ||||| :||||:|||||||||| :||||||| |||||||| ||:  ||||||||||||||
Db         61 GCPSTFMLLTHSISRIAVSYQAKVNLLSAIKSPCQRETPRGAKTNPWYEPIYLGGVFQLE 120

Qy        128 TGDRLSAEINRPDYLDFAESGQVYFGIIA 156
              ||||||||| ||||| ||||||||||||
Db        121 KGDRLSAEINLPDYLDLAESGQVYFGIIA 149


RESULT 15
Q9TTG8_AOTNI
ID   Q9TTG8_AOTNI PRELIMINARY;      PRT;   149 AA.
AC   Q9TTG8;
DT   01-MAY-2000 (TrEMBLrel. 13, Created)
DT   01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
DT   01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
DE   Tumor necrosis factor alpha (Fragment).
GN   Name=TNF-alpha;
OS   Aotus nigriceps (Black-headed owl monkey).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Euarchontoglires; Primates; Platyrrhini; Cebidae;
OC   Aotinae; Aotus.
OX   NCBI_TaxID=57175;
RN   [1]
RP   NUCLEOTIDE SEQUENCE.
RX   MEDLINE=22354194; PubMed=12466897; DOI=10.1007/s00251-002-0512-2;
RA   Hernandez E.C., Suarez C.F., Mendez J.A., Echeverry S.J.,
RA   Murillo L.A., Patarroyo M.E.;
RT   "Identification, cloning, and sequencing of different cytokine genes
RT   in four species of owl monkey.";
RL   Immunogenetics 54:645-653(2002).
DR   EMBL; AF097328; AAF21303.1; -; mRNA.
DR   HSSP; P01375; 4TSV.
DR   SMR; Q9TTG8; 1-149.
DR   GO; GO:0016020; C:membrane; IEA.
DR   GO; GO:0005164; F:tumor necrosis factor receptor binding; IEA.
DR   GO; GO:0006955; P:immune response; IEA.
DR   InterPro; IPR006053; TNF_abc.
DR   InterPro; IPR002959; TNF_alpha.
DR   InterPro; IPR006052; TNF_family.
DR   InterPro; IPR003636; TNF_subf.
DR   Pfam; PF00229; TNF; 1.
DR   PRINTS; PR01234; TNECROSISFCT.
DR   PRINTS; PR01235; TNFALPHA.
DR   ProDom; PD002012; TNF_subf; 1.
DR   PROSITE; PS00251; TNF_1; 1.
DR   PROSITE; PS50049; TNF_2; 1.
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  Query Match             86.0%;  Score 693;  DB 2;  Length 149;
  Best Local Similarity   89.3%;  Pred. No. 1.2e-62;
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Qy         68 GCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYLGGVFQLE 127
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Qy        128 TGDRLSAEINRPDYLDFAESGQVYFGIIA 156
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Search completed: May  5, 2006, 11:26:00
Job time : 54.5 secs
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GenCore version 5.1.7

OM protein - protein search, using sw model

Run on: May 5, 2006, 11:22:28 ; Search time 15.25 Seconds
(without alignments)
851.153 Million cell updates/sec

Title: US-10-668-178-16
Perfect score: 806
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Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 572060 seqs, 82675679 residues

Total number of hits satisfying chosen parameters: 572060

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : Issued_Patents_AA:*
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

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1	777	96.4	157	1	US-07-794-400-1	Sequence 1, Appli
2	777	96.4	157	1	US-08-041-648-2	Sequence 2, Appli
3	777	96.4	157	1	US-08-107-235-1	Sequence 1, Appli
4	777	96.4	157	1	US-08-217-529-2	Sequence 2, Appli
5	777	96.4	157	1	US-08-318-193-86	Sequence 86, Appl
6	777	96.4	157	1	US-08-397-470-1	Sequence 1, Appli
7	777	96.4	157	1	US-08-192-102-1	Sequence 1, Appli
8	777	96.4	157	1	US-08-324-799-1	Sequence 1, Appli
9	777	96.4	157	1	US-08-538-875-1	Sequence 1, Appli
10	777	96.4	157	1	US-08-394-600B-17	Sequence 17, Appl
11	777	96.4	157	1	US-08-500-860A-35	Sequence 35, Appl
12	777	96.4	157	1	US-08-192-861A-1	Sequence 1, Appli
13	777	96.4	157	1	US-08-600-783-5	Sequence 5, Appli
14	777	96.4	157	2	US-08-584-031-13	Sequence 13, Appl
15	777	96.4	157	2	US-08-714-960B-1	Sequence 1, Appli
16	777	96.4	157	2	US-09-133-119-1	Sequence 1, Appli
17	777	96.4	157	2	US-08-192-093A-1	Sequence 1, Appli
18	777	96.4	157	2	US-09-598-784-1	Sequence 1, Appli
19	777	96.4	157	2	US-09-496-118B-7	Sequence 7, Appli
20	777	96.4	157	2	US-08-395-456C-17	Sequence 17, Appl
21	777	96.4	157	2	US-08-487-453A-17	Sequence 17, Appl
22	777	96.4	157	2	US-09-582-450-13	Sequence 13, Appl
23	777	96.4	157	2	US-09-934-465-13	Sequence 13, Appl
24	777	96.4	157	2	US-09-756-301B-1	Sequence 1, Appli
25	777	96.4	157	2	US-09-756-398B-1	Sequence 1, Appli
26	777	96.4	157	4	PCT-US92-02190-1	Sequence 1, Appli
27	777	96.4	157	4	PCT-US93-02475-1	Sequence 1, Appli
28	777	96.4	157	4	PCT-US95-02513-17	Sequence 17, Appl
29	777	96.4	157	6	5180811-1	Patent No. 5180811
30	777	96.4	158	2	US-09-645-415A-4	Sequence 4, Appli
31	777	96.4	177	1	US-08-394-600B-21	Sequence 21, Appl
32	777	96.4	177	2	US-08-395-456C-21	Sequence 21, Appl
33	777	96.4	177	2	US-08-487-453A-21	Sequence 21, Appl
34	777	96.4	177	4	PCT-US95-02513-21	Sequence 21, Appl
35	777	96.4	180	2	US-09-645-415A-8	Sequence 8, Appli
36	777	96.4	193	1	US-08-889-909A-3	Sequence 3, Appli
37	777	96.4	193	2	US-09-156-163A-3	Sequence 3, Appli
38	777	96.4	193	2	US-09-982-308B-3	Sequence 3, Appli
39	777	96.4	233	1	US-08-323-445A-10	Sequence 10, Appl
40	777	96.4	233	1	US-08-515-903A-10	Sequence 10, Appl
41	777	96.4	233	1	US-08-912-227-3	Sequence 3, Appli
42	777	96.4	233	1	US-08-230-428B-2	Sequence 2, Appli
43	777	96.4	233	2	US-08-883-086-6	Sequence 6, Appli
44	777	96.4	233	2	US-08-880-342-37	Sequence 37, Appl
45	777	96.4	233	2	US-09-589-287B-3	Sequence 3, Appli

ALIGNMENTS

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RESULT 1
US-07-794-400-1
; Sequence 1, Application US/07794400
; Patent No. 5422104
;  GENERAL INFORMATION:
;    APPLICANT:  Fiers, W.
;    APPLICANT:  Tavernier, J.
;    APPLICANT:  Van Ostade, X.
;    TITLE OF INVENTION:  TNF-Muteins
;    NUMBER OF SEQUENCES:  24
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Hoffmann-La Roche Inc.
;      STREET:  340 Kingsland Street
;      CITY:  Nutley
;      STATE:  New Jersey
;      COUNTRY:  USA
;      ZIP:  07110
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/07/794,400
;      FILING DATE:  19911120
;      CLASSIFICATION:  435
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  EP 90810901.0
;      FILING DATE:  21-NOV-1990
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Krovatin, William
;      REGISTRATION NUMBER:  33256
;      REFERENCE/DOCKET NUMBER:  4105/136-00
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (201) 235-4387
;      TELEFAX:  (201) 235-3500
;  INFORMATION FOR SEQ ID NO:  1:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  157 amino acids
;      TYPE:  AMINO ACID
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
;    ORIGINAL SOURCE:
;      ORGANISM:  Homo sapiens
;      TISSUE TYPE:  Blood
;      CELL TYPE:  Macrophage
US-07-794-400-1

  Query Match             96.4%;  Score 777;  DB 1;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 3.9e-74;
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  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

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Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
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Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
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Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 2
US-08-041-648-2
; Sequence 2, Application US/08041648
; Patent No. 5486463
;  GENERAL INFORMATION:
;    APPLICANT:  Lesslauer, Werner
;    APPLICANT:  L tscher, Hansruedi
;    APPLICANT:  St ber, Dietrich
;    TITLE OF INVENTION:  TNF-MUTEINS
;    NUMBER OF SEQUENCES:  17
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  George M. Gould, Esq., Hoffmann-La Roche Inc.
;      STREET:  340 Kingsland Street
;      CITY:  Nutley
;      STATE:  New Jersey
;      COUNTRY:  U.S.A.
;      ZIP:  07110-1199
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/041,648
;      FILING DATE:  1-APR-1993
;      CLASSIFICATION:  435
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  EP 92810249.0
;      FILING DATE:  2-APR-1992
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Roseman, Catherine R.
;      REGISTRATION NUMBER:  34240
;      REFERENCE/DOCKET NUMBER:  RAN 4105/147
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (201) 235-6208
;      TELEFAX:  (201) 235-3500
;  INFORMATION FOR SEQ ID NO:  2:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  157 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
US-08-041-648-2

  Query Match             96.4%;  Score 777;  DB 1;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 3.9e-74;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
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Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
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Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 3
US-08-107-235-1
; Sequence 1, Application US/08107235
; Patent No. 5587457
;  GENERAL INFORMATION:
;    APPLICANT:  Rathjen, Deborah A
;    APPLICANT:  Ferrante, Antonio
;    APPLICANT:  Widmer, Fred
;    TITLE OF INVENTION:  Neutrophil Stimulating Peptides
;    NUMBER OF SEQUENCES:  19
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Allegretti & Witcoff, Ltd.
;      STREET:  10 S. Wacker Dr.
;      CITY:  Chicago
;      STATE:  Illinois
;      COUNTRY:  USA
;      ZIP:  60606
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/107,235
;      FILING DATE:  16-AUG-1993
;      CLASSIFICATION:  530
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 07/930,415
;      FILING DATE:  12-MAR-1991
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  McDonnell, John J
;      REGISTRATION NUMBER:  26,949
;      REFERENCE/DOCKET NUMBER:  92,622A
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  312-715-1000
;      TELEFAX:  312-715-1234
;  INFORMATION FOR SEQ ID NO:  1:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  157 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
;    FEATURE:
;      NAME/KEY:  Peptide
;      LOCATION:  1..157
;      OTHER INFORMATION:  /note= "HUMAN TNF)"
US-08-107-235-1

  Query Match             96.4%;  Score 777;  DB 1;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 3.9e-74;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
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Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
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Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
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RESULT 4
US-08-217-529-2
; Sequence 2, Application US/08217529
; Patent No. 5597899
;  GENERAL INFORMATION:
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;    APPLICANT:  Banner, David
;    APPLICANT:  Lesslauer, Werner
;    APPLICANT:  Lotscher, Hansreudi
;    APPLICANT:  Stuber, Dietrich
;    TITLE OF INVENTION:  Tumor Necrosis Factor Muteins
;    NUMBER OF SEQUENCES:  7
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  George M. Gould, Esq., Hoffmann-La Roche Inc.
;      STREET:  340 Kingsland Street
;      CITY:  Nutley
;      STATE:  New Jersey
;      COUNTRY:  U.S.
;      ZIP:  07110
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/217,529
;      FILING DATE:  24-MAR-1994
;      CLASSIFICATION:  530
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  EP 93810224.1
;      FILING DATE:  29-MAR-1993
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Roseman, Catherine R
;      REGISTRATION NUMBER:  34240
;      REFERENCE/DOCKET NUMBER:  4105/155
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (201) 235-6208
;      TELEFAX:  (201) 235-3500
;  INFORMATION FOR SEQ ID NO:  2:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  157 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
US-08-217-529-2

  Query Match             96.4%;  Score 777;  DB 1;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 3.9e-74;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
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Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
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Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
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Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 5
US-08-318-193-86
; Sequence 86, Application US/08318193
; Patent No. 5641663
;  GENERAL INFORMATION:
;    APPLICANT:  GARVIN, Robert T.
;    APPLICANT:  MALEK, Lawrence T.
;    TITLE OF INVENTION:  AN EXPRESSION SYSTEM FOR THE SECRETION
;    TITLE OF INVENTION:  OF BIOACTIVE HUMAN GRANULOCYTE MACROPHAGE COLONY
;    TITLE OF INVENTION:  STIMULATING FACTOR (GM-CSF) AND OTHER HETEROLOGOUS
;    TITLE OF INVENTION:  PROTEINS FROM STREPTOMYCES
;    NUMBER OF SEQUENCES:  91
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Foley & Lardner
;      STREET:  1800 Diagonal Road, Suite 500
;      CITY:  Alexandria
;      STATE:  Virginia
;      COUNTRY:  USA
;      ZIP:  22313-0299
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/318,193
;      FILING DATE:
;      CLASSIFICATION:  435
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US/07/935,314
;      FILING DATE:
;      APPLICATION NUMBER:  US 07/224,568
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  BENT, Stephen A.
;      REGISTRATION NUMBER:  29,768
;      REFERENCE/DOCKET NUMBER:  18740/116 CACO
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (703)836-9300
;      TELEFAX:  (703)683-4109
;      TELEX:  899149
;  INFORMATION FOR SEQ ID NO:  86:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  157 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
US-08-318-193-86

  Query Match             96.4%;  Score 777;  DB 1;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 3.9e-74;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
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Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
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Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
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Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 6
US-08-397-470-1
; Sequence 1, Application US/08397470
; Patent No. 5652353
;  GENERAL INFORMATION:
;    APPLICANT:  Fiers, W.
;    APPLICANT:  Tavernier, J.
;    APPLICANT:  Van Ostade, X.
;    TITLE OF INVENTION:  TNF-Muteins
;    NUMBER OF SEQUENCES:  24
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Hoffmann-La Roche Inc.
;      STREET:  340 Kingsland Street
;      CITY:  Nutley
;      STATE:  New Jersey
;      COUNTRY:  USA
;      ZIP:  07110
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/397,470
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;      FILING DATE:  01-MAR-1995
;      CLASSIFICATION:  435
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 07/794,400
;      FILING DATE:  20-NOV-1991
;      APPLICATION NUMBER:  EP 90810901.0
;      FILING DATE:  21-NOV-1990
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Krovatin, William
;      REGISTRATION NUMBER:  33256
;      REFERENCE/DOCKET NUMBER:  4105/136-00
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (201) 235-4387
;      TELEFAX:  (201) 235-3500
;  INFORMATION FOR SEQ ID NO:  1:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  157 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
;    ORIGINAL SOURCE:
;      ORGANISM:  Homo sapiens
;      TISSUE TYPE:  Blood
;      CELL TYPE:  Macrophage
US-08-397-470-1

  Query Match             96.4%;  Score 777;  DB 1;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 3.9e-74;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| ||||||||||||||||||||||:||||||| |||||||||||||| ||||||||
Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
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Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 7
US-08-192-102-1
; Sequence 1, Application US/08192102
; Patent No. 5656272
;  GENERAL INFORMATION:
;    APPLICANT:  Le, Junming
;    APPLICANT:  Vilcek, Jan
;    APPLICANT:  Daddona, Peter E.
;    APPLICANT:  Ghrayeb, John
;    APPLICANT:  Knight, David M.
;    APPLICANT:  Siegel, Scott A.
;    TITLE OF INVENTION:  ANTI-TNF ANTIBODIES AND ASSAYS EMPLOYING
;    TITLE OF INVENTION:  ANTI-TNF ANTIBODIES
;    NUMBER OF SEQUENCES:  19
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Hamilton, Brook, Smith & Reynolds, P.C.
;      STREET:  Two Militia Drive
;      CITY:  Lexington
;      STATE:  Massachusetts
;      COUNTRY:  USA
;      ZIP:  02173
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/192,102
;      FILING DATE:  04-FEB-1994
;      CLASSIFICATION:  424
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/192,093
;      FILING DATE:  04-FEB-1994
;      APPLICATION NUMBER:  US 08/013,413
;      FILING DATE:  02-FEB-1993
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 08/010,406
;      FILING DATE:  29-JAN-1993
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 07/943,852
;      FILING DATE:  11-SEP-1992
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 07/853,606
;      FILING DATE:  18-MAR-1992
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 07/670,827
;      FILING DATE:  18-MAR-1991
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Brook, David E.
;      REGISTRATION NUMBER:  22,592
;      REFERENCE/DOCKET NUMBER:  NYU93-01M3
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (617) 861-6240
;      TELEFAX:  (617) 861-9540
;  INFORMATION FOR SEQ ID NO:  1:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  157 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  peptide
US-08-192-102-1

  Query Match             96.4%;  Score 777;  DB 1;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 3.9e-74;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| ||||||||||||||||||||||:||||||| |||||||||||||| ||||||||
Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||||||||||||||||||||||||
Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 8
US-08-324-799-1
; Sequence 1, Application US/08324799
; Patent No. 5698195
;  GENERAL INFORMATION:
;    APPLICANT:  Le, Junming
;    APPLICANT:  Vilcek, Jan
;    APPLICANT:  Daddona, Peter E.
;    APPLICANT:  Ghrayeb, John
;    APPLICANT:  Knight, David M.
;    APPLICANT:  Siegel, Scott A.
;    TITLE OF INVENTION:  ANTI-TNF ANTIBODIES AND PEPTIDES
;    TITLE OF INVENTION:  OF HUMAN TUMOR NECROSIS FACTOR
;    NUMBER OF SEQUENCES:  19
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Hamilton, Brook, Smith & Reynolds, P.C.
;      STREET:  Two Militia Drive
;      CITY:  Lexington
;      STATE:  Massachusetts
;      COUNTRY:  USA
;      ZIP:  02173
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
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;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/324,799
;      FILING DATE:  18-OCT-1994
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  08/192,093
;      FILING DATE:  04-FEB-1994
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  08/192,102
;      FILING DATE:  04-FEB-1994
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  08/192,861
;      FILING DATE:  04-FEB-1994
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 08/013,413
;      FILING DATE:  02-FEB-1993
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 08/010,406
;      FILING DATE:  29-JAN-1993
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 07/943,852
;      FILING DATE:  11-SEP-1992
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 07/853,606
;      FILING DATE:  18-MAR-1992
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 07/670,827
;      FILING DATE:  18-MAR-1991
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Brook, David E.
;      REGISTRATION NUMBER:  22,592
;      REFERENCE/DOCKET NUMBER:  NYU93-01M4
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (617) 861-6240
;      TELEFAX:  (617) 861-9540
;  INFORMATION FOR SEQ ID NO:  1:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  157 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  peptide
US-08-324-799-1

  Query Match             96.4%;  Score 777;  DB 1;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 3.9e-74;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| |||||||||||||||||||||:||||||| |||||||||||| ||||||||
Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
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Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 9
US-08-538-875-1
; Sequence 1, Application US/08538875
; Patent No. 5773582
;  GENERAL INFORMATION:
;    APPLICANT:  Shin, Hang-Cheol
;    APPLICANT:  Shin, Nam-Kyu
;    APPLICANT:  Lee, Inkyung
;    APPLICANT:  Kang, Sungzong
;    TITLE OF INVENTION:  TUMOR NECROSIS FACTOR MUTEINS
;    NUMBER OF SEQUENCES:  73
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Shin, Hang-Cheol
;      STREET:  Jukong Gocheung Apt. 1014-806, Haan-dong
;      CITY:  Kwangmyung-shi
;      STATE:  Kyungki-do
;      COUNTRY:  Republic of Korea
;      ZIP:  423-060
;      ADDRESSEE:  Shin, Nam-Kyu
;      STREET:  #181-404 Sadang-4-dong, Dongjak-ku
;      CITY:  Seoul
;      STATE:
;      COUNTRY:  Republic of Korea
;      ZIP:  156-094
;      ADDRESSEE:  Lee, Inkyung
;      STREET:  11/2, #302-39 Juan-4-dong, Nam-ku
;      CITY:  Incheon
;      STATE:
;      COUNTRY:  Republic of Korea
;      ZIP:  402-204
;      ADDRESSEE:  Kang, Sungzong
;      STREET:  #84-4 Daeshin-dong, Seodaemun-ku
;      CITY:  Seoul
;      STATE:
;      COUNTRY:  Republic of Korea
;      ZIP:  120-160
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Diskette 3.5inch 2.0Mb storage
;      COMPUTER:  IBM PC/AT
;      OPERATING SYSTEM:  MS-DOS
;      SOFTWARE:  WordPerfect 5.1
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/538,875
;      FILING DATE:
;      CLASSIFICATION:  435
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/193,336
;      FILING DATE:
;      APPLICATION NUMBER:  KR 93-1751
;      FILING DATE:  9-FEB-1993
;    ATTORNEY/AGENT INFORMATION:
;      NAME:
;      REGISTRATION NUMBER:
;      REFERENCE/DOCKET NUMBER:
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:
;      TELEFAX:
;  INFORMATION FOR SEQ ID NO:  1:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  157 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
US-08-538-875-1

  Query Match             96.4%;  Score 777;  DB 1;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 3.9e-74;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| |||||||||||||||||||||:||||||| |||||||||||| ||||||||
Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
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Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 10
US-08-394-600B-17
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; Sequence 17, Application US/08394600B
; Patent No. 5843693
;  GENERAL INFORMATION:
;    APPLICANT:  Halenbeck, Robert F.
;    APPLICANT:  Jewell, David A.
;    APPLICANT:  Koths, Kirston E.
;    APPLICANT:  Kriegler, Michael
;    APPLICANT:  Perez, Carl
;    TITLE OF INVENTION:  Compositions for the Inhibition of
;    TITLE OF INVENTION:  Protein Hormone Formation and Uses Thereof
;    NUMBER OF SEQUENCES:  28
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  McAndrews, Held & Malloy, Ltd.
;      STREET:  500 West Madison Street; 34th Floor
;      CITY:  Chicago
;      STATE:  Illinois
;      COUNTRY:  United States of America
;      ZIP:  60661
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/394,600B
;      FILING DATE:  02/27/95
;      CLASSIFICATION:  435
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Donald J. Pochopien
;      REGISTRATION NUMBER:  32,167
;      REFERENCE/DOCKET NUMBER:  820.005/11850US05
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  312/707-8889
;      TELEFAX:  312/707-9155
;      TELEX:
;  INFORMATION FOR SEQ ID NO:  17:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  157 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
US-08-394-600B-17

  Query Match             96.4%;  Score 777;  DB 1;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 3.9e-74;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| ||||||||||||||||||||||:||||||| |||||||||||||| ||||||||
Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| |||||||||||||||||||||||||||||
Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 11
US-08-500-860A-35
; Sequence 35, Application US/08500860A
; Patent No. 5891679
;  GENERAL INFORMATION:
;    APPLICANT:  LUCAS, RUDOLPH
;    APPLICANT:  DE BAETSELIER, PATRICK
;    APPLICANT:  FRANSEN, LUCIE
;    APPLICANT:  SABLON, ERWIN
;    TITLE OF INVENTION:  TNF-MUTEINS, A PROCESS FOR PREPARING THEM AND
;    TITLE OF INVENTION:  THEIR USE AS ACTIVE SUBSTANCES IN PHARMACEUTICAL COMPOSITIONS
;    NUMBER OF SEQUENCES:  36
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  NIXON & VANDERHYE P.C.
;      STREET:  1100 NORTH GLEBE ROAD
;      CITY:  ARLINGTON
;      STATE:  VIRGINIA
;      COUNTRY:  U.S.A.
;      ZIP:  22201-4714
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/500,860A
;      FILING DATE:
;      CLASSIFICATION:  435
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  BYRNE, THOMAS E.
;      REGISTRATION NUMBER:  32,205
;      REFERENCE/DOCKET NUMBER:  1487-8
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (703)816-4000
;      TELEFAX:  (703)816-4100
;      TELEX:  200797 NIXN UR
;  INFORMATION FOR SEQ ID NO:  35:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  157 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  peptide
US-08-500-860A-35

  Query Match             96.4%;  Score 777;  DB 1;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 3.9e-74;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| ||||||||||||||||||||||:||||||| |||||||||||||| ||||||||
Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| |||||||||||||||||||||||||||||
Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 12
US-08-192-861A-1
; Sequence 1, Application US/08192861A
; Patent No. 5919452
;  GENERAL INFORMATION:
;    APPLICANT:  Le, Junming
;    APPLICANT:  Vilcek, Jan
;    APPLICANT:  Daddona, Peter E.
;    APPLICANT:  Ghrayeb, John
;    APPLICANT:  Knight, David M.
;    APPLICANT:  Siegel, Scott A.
;    TITLE OF INVENTION:  METHODS OF TREATING TNF`-MEDIATED DISEASE USING
;    TITLE OF INVENTION:  CHIMERIC ANTI-TNF ANTIBODIES (As Amended)
;    NUMBER OF SEQUENCES:  19
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Hamilton, Brook, Smith & Reynolds, P.C.
;      STREET:  Two Militia Drive
;      CITY:  Lexington
;      STATE:  Massachusetts
;      COUNTRY:  USA
;      ZIP:  02173
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
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;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/192,861A
;      FILING DATE:  04-FEB-1994
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 08/013,413
;      FILING DATE:  02-FEB-1993
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 08/010,406
;      FILING DATE:  29-JAN-1993
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 07/943,852
;      FILING DATE:  11-SEP-1992
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 07/853,606
;      FILING DATE:  18-MAR-1992
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 07/670,827
;      FILING DATE:  18-MAR-1991
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Brook, David E.
;      REGISTRATION NUMBER:  22,592
;      REFERENCE/DOCKET NUMBER:  NYU93-01M2
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (781) 861-6240
;      TELEFAX:  (781) 861-9540
;  INFORMATION FOR SEQ ID NO:  1:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  157 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  peptide
US-08-192-861A-1

  Query Match             96.4%;  Score 777;  DB 1;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 3.9e-74;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| |||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| |||||||||||||||||||||:||||||| |||||||||||||| ||||||||
Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
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Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 13
US-08-600-783-5
; Sequence 5, Application US/08600783
; Patent No. 5962267
;  GENERAL INFORMATION:
;    APPLICANT:  SHIN, Hang Cheol
;    APPLICANT:  CHANG, Seung Gu
;    APPLICANT:  KIM, Dae Young
;    APPLICANT:  KIM, Chong Suhl
;    TITLE OF INVENTION:  Proinsulin Derivative and Process
;    TITLE OF INVENTION:  for Producing Human Insulin
;    NUMBER OF SEQUENCES:  36
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  SHIN, Hang Cheol
;      STREET:  Ssangma-Hanshin Apt. 102-1206,
;      STREET:  #245 Cholsan-dong
;      CITY:  Kwangmyung-shi
;      STATE:  Kyungki-do
;      COUNTRY:  Republic of Korea
;      ZIP:  423-030
;      ADDRESSEE:  CHANG, Seung Gu
;      STREET:  Hyundai Apt. 71-203, Apkujong-dong,
;      STREET:  Kangnam-ku
;      CITY:  Seoul
;      STATE:  Seoul
;      COUNTRY:  Republic of Korea
;      ZIP:  135-110
;      ADDRESSEE:  KIM, Dae Young
;      STREET:  Sosa Jukong Apt. 108-202, Sosa Bon-dong,
;      STREET:  Sosa-ku
;      CITY:  Bucheon-shi
;      STATE:  Kyungki-do
;      COUNTRY:  Republic of Korea
;      ZIP:  422-230
;      ADDRESSEE:  KIM, Chong Suhl
;      STREET:  Garden Heights Apt. 202-801, #100,
;      STREET:  Hwangkeum-dong, Soosung-ku
;      CITY:  Taegu
;      STATE:  Taegu
;      COUNTRY:  Republic of Korea
;      ZIP:  706-040
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy Disk, 3.5 inch, 1.44MB storage
;      COMPUTER:  IBM PC/AT
;      OPERATING SYSTEM:  MS-DOS
;      SOFTWARE:  Word Perfect 5.1
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/600,783
;      FILING DATE:
;      CLASSIFICATION:  514
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  KR 95-2751
;      FILING DATE:  15-FEB-1995
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Shahan Islam
;      REGISTRATION NUMBER:  32,507
;      REFERENCE/DOCKET NUMBER:
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (212) 278-1000
;      TELEFAX:  (212) 953-7249
;  INFORMATION FOR SEQ ID NO:  5:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  157 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
US-08-600-783-5

  Query Match             96.4%;  Score 777;  DB 1;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 3.9e-74;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| |||||||||||||||||||||:||||||| |||||||||||||| ||||||||
Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
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Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 14
US-08-584-031-13
; Sequence 13, Application US/08584031A
; Patent No. 6030945
; GENERAL INFORMATION:
;  APPLICANT: Ashkenazi, Avi J.
;  TITLE OF INVENTION: APO-2 LIGAND
;  FILE REFERENCE: 11669.22US03
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;  CURRENT APPLICATION NUMBER: US/08/584,031A
;  CURRENT FILING DATE: 1996-01-09
;  NUMBER OF SEQ ID NOS: 17
;  SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 13
;   LENGTH: 157
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-08-584-031-13

  Query Match             96.4%;  Score 777;  DB 2;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 3.9e-74;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| |||||||||||||||||||||:||||||| |||||||||||| ||||||||
Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
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Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 15
US-08-714-960B-1
; Sequence 1, Application US/08714960B
; Patent No. 6121237
;  GENERAL INFORMATION:
;    APPLICANT:  RATHJEN, Deborah A
;    APPLICANT:  FERRANTE, Antonio
;    TITLE OF INVENTION:  Neutrophil Stimulating Peptides
;    NUMBER OF SEQUENCES:  19
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  BANNER & WITCOFF, LTD.
;      STREET:  10 S. Wacker Drive, Suite 3000
;      CITY:  Chicago
;      STATE:  Illinois
;      COUNTRY:  USA
;      ZIP:  60606
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  1.44 Mb storage diskette, 3.50 inch
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  IBM compatible PC/MS-DOS
;      SOFTWARE:  WordPerfect version 6.1
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/714,960B
;      FILING DATE:  17-SEP-1996
;      CLASSIFICATION:  514
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  AU PJ9065
;      FILING DATE:  12-MAR-1990
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  PCT/AU91/00086
;      FILING DATE:  12-MAR-1991
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 07/930,415
;      FILING DATE:  09-NOV-1992
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 08/107,235
;      FILING DATE:  16-AUG-1993
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Resis, Robert H.
;      REGISTRATION NUMBER:  32,168
;      REFERENCE/DOCKET NUMBER:  92,622-B
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (312) 715-1000
;      TELEFAX:  (312) 715-1234
;  INFORMATION FOR SEQ ID NO:  1:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  157 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  not relevant
;    MOLECULE TYPE:  protein
;    FEATURE:
;      NAME/KEY:  Protein
;      LOCATION:  1..157
;      OTHER INFORMATION:  /note= "Human TNF"
US-08-714-960B-1

  Query Match             96.4%;  Score 777;  DB 2;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 3.9e-74;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| |||||||||||||||||||||:||||||| |||||||||||| ||||||||
Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||||||||||||||||||||||||
Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


Search completed: May  5, 2006, 11:27:10
Job time : 16.25 secs
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GenCore version 5.1.7

OM protein - protein search, using sw model

Run on: May 5, 2006, 11:26:23 ; Search time 45.5 Seconds
(without alignments)
1441.741 Million cell updates/sec

Title: US-10-668-178-16
Perfect score: 806
Sequence: 1 VRSSSRTPSDAPVAHVVANP.....RPDYLDFAESGQVYFGIIAL 157

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 1867569 seqs, 417829326 residues

Total number of hits satisfying chosen parameters: 1867569

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : Published_Applications_AA_Main:*
1: /cgn2_6/ptodata/1/pubpaa/US07_PUBCOMB.pep:*
2: /cgn2_6/ptodata/1/pubpaa/US08_PUBCOMB.pep:*
3: /cgn2_6/ptodata/1/pubpaa/US09_PUBCOMB.pep:*
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6: /cgn2_6/ptodata/1/pubpaa/US11_PUBCOMB.pep:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	806	100.0	157	5	US-10-668-178-15	Sequence 15, Appl
2	806	100.0	157	5	US-10-668-178-16	Sequence 16, Appl
3	778	96.5	157	4	US-10-262-630-13	Sequence 13, Appl
4	778	96.5	157	4	US-10-354-985-2	Sequence 2, Appli
5	778	96.5	157	5	US-10-668-178-2	Sequence 2, Appli
6	777	96.4	157	3	US-09-756-301A-1	Sequence 1, Appli
7	777	96.4	157	3	US-09-927-703-1	Sequence 1, Appli
8	777	96.4	157	3	US-09-854-280-19	Sequence 19, Appl
9	777	96.4	157	3	US-09-934-465-13	Sequence 13, Appl
10	777	96.4	157	3	US-09-766-535A-1	Sequence 1, Appli
11	777	96.4	157	3	US-09-854-208-19	Sequence 19, Appl
12	777	96.4	157	3	US-09-756-161A-1	Sequence 1, Appli
13	777	96.4	157	3	US-09-903-327A-7	Sequence 7, Appli
14	777	96.4	157	3	US-09-756-398B-1	Sequence 1, Appli
15	777	96.4	157	3	US-09-897-724-1	Sequence 1, Appli
16	777	96.4	157	4	US-10-010-229-1	Sequence 1, Appli
17	777	96.4	157	4	US-10-043-450-1	Sequence 1, Appli
18	777	96.4	157	4	US-10-044-534-1	Sequence 1, Appli
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21	777	96.4	157	4	US-10-119-621-1	Sequence 1, Appli
22	777	96.4	157	4	US-10-208-145-1	Sequence 1, Appli
23	777	96.4	157	4	US-10-262-630-9	Sequence 9, Appli
24	777	96.4	157	4	US-10-305-347A-9	Sequence 9, Appli
25	777	96.4	157	4	US-10-198-845-1	Sequence 1, Appli
26	777	96.4	157	4	US-10-227-488-1	Sequence 1, Appli
27	777	96.4	157	4	US-10-170-812-7	Sequence 7, Appli
28	777	96.4	157	4	US-10-187-121-1	Sequence 1, Appli
29	777	96.4	157	4	US-10-176-460-1	Sequence 1, Appli
30	777	96.4	157	4	US-10-186-559-1	Sequence 1, Appli
31	777	96.4	157	4	US-10-371-961-1	Sequence 1, Appli
32	777	96.4	157	4	US-10-200-795-1	Sequence 1, Appli
33	777	96.4	157	4	US-10-319-011-1	Sequence 1, Appli
34	777	96.4	157	4	US-10-371-443-1	Sequence 1, Appli
35	777	96.4	157	4	US-10-379-866-1	Sequence 1, Appli
36	777	96.4	157	4	US-10-371-962-1	Sequence 1, Appli
37	777	96.4	157	4	US-10-354-985-1	Sequence 1, Appli
38	777	96.4	157	4	US-10-397-786A-1	Sequence 1, Appli
39	777	96.4	157	4	US-10-665-971-1	Sequence 1, Appli
40	777	96.4	157	4	US-10-637-759-1	Sequence 1, Appli
41	777	96.4	157	4	US-10-327-619-1	Sequence 1, Appli
42	777	96.4	157	4	US-10-774-118-1	Sequence 1, Appli
43	777	96.4	157	4	US-10-394-471B-17	Sequence 17, Appl
44	777	96.4	157	5	US-10-861-685-13	Sequence 13, Appl
45	777	96.4	157	5	US-10-668-178-1	Sequence 1, Appli

ALIGNMENTS

RESULT 1
US-10-668-178-15
; Sequence 15, Application US/10668178
; Publication No. US20050013795A1
; GENERAL INFORMATION:
; APPLICANT: KABUSHIKI KAISHA HAYASHIBARA SEIBUTSU KAGAKU KENKYUJO
; APPLICANT: MAYUMI, Tadanori
; APPLICANT: TSUTSUMI, Yasuo
; APPLICANT: NAKAGAWA, Shinsaku
; APPLICANT: IKEGAMI, Hakuo
; TITLE OF INVENTION: Biologically-active conjugate
; FILE REFERENCE: MAYUMI2A
; CURRENT APPLICATION NUMBER: US/10/668,178
; CURRENT FILING DATE: 2003-09-24
; PRIOR APPLICATION NUMBER: JP 83509/2002
; PRIOR FILING DATE: 2002-03-25
; PRIOR APPLICATION NUMBER: JP 185387/2002
; PRIOR FILING DATE: 2002-06-26
; NUMBER OF SEQ ID NOS: 16
; SOFTWARE: PatentIn version 3.3
; SEQ ID NO 15
; LENGTH: 157
; TYPE: PRT
; ORGANISM: Artificial
; FEATURE:
; OTHER INFORMATION: Synthetic Construct
US-10-668-178-15

Query Match 100.0%; Score 806; DB 5; Length 157;
Best Local Similarity 100.0%; Pred. No. 6.3e-82;
Matches 157; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
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Db          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
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Db         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
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RESULT 2
US-10-668-178-16
; Sequence 16, Application US/10668178
; Publication No. US20050013795A1
; GENERAL INFORMATION:

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;  APPLICANT: KABUSHIKI KAISHA HAYASHIBARA SEIBUTSU KAGAKU KENKYUJO
;  APPLICANT:  MAYUMI, Tadanori
;  APPLICANT:  TSUTSUMI, Yasuo
;  APPLICANT:  NAKAGAWA, Shinsaku
;  APPLICANT:  IKEGAMI, Hakuo
;  TITLE OF INVENTION: Biologically-active conjugate
;  FILE REFERENCE: MAYUMI2A
;  CURRENT APPLICATION NUMBER: US/10/668,178
;  CURRENT FILING DATE:  2003-09-24
;  PRIOR APPLICATION NUMBER: JP 83509/2002
;  PRIOR FILING DATE: 2002-03-25
;  PRIOR APPLICATION NUMBER: JP 185387/2002
;  PRIOR FILING DATE: 2002-06-26
;  NUMBER OF SEQ ID NOS: 16
;  SOFTWARE: PatentIn version 3.3
; SEQ ID NO 16
;   LENGTH: 157
;   TYPE: PRT
;   ORGANISM: Artificial
;   FEATURE:
;   OTHER INFORMATION: synthetic (Variant protein of human tumor necrosis factor)
US-10-668-178-16

  Query Match             100.0%;  Score 806;  DB 5;  Length 157;
  Best Local Similarity   100.0%;  Pred. No. 6.3e-82;
  Matches  157;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
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Db          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
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Db         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
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Db        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 3
US-10-262-630-13
; Sequence 13, Application US/10262630
; Publication No. US20030138401A1
; GENERAL INFORMATION:
;  APPLICANT: Dahiyat, Bassil I.
;  APPLICANT:  Desjarlais, John R.
;  APPLICANT:  Filikov, Anton
;  APPLICANT:  Muchhal, Umesh
;  APPLICANT:  Tansey, Malu Lourdas G.
;  APPLICANT:  Zalevsky, Jonathan
;  TITLE OF INVENTION: PROTEIN BASED TNF-ALPHA VARIANTS FOR THE TREATMENT OF TNF-ALPHA
;  TITLE OF INVENTION:  RELATED DISORDERS
;  FILE REFERENCE: A-68990-4/RFT/RMS/RMK
;  CURRENT APPLICATION NUMBER: US/10/262,630
;  CURRENT FILING DATE:  2003-01-27
;  PRIOR APPLICATION NUMBER: US 60/186,427
;  PRIOR FILING DATE: 2000-03-02
;  PRIOR APPLICATION NUMBER: US 09/945,150
;  PRIOR FILING DATE: 2001-08-31
;  PRIOR APPLICATION NUMBER: US 09/798,789
;  PRIOR FILING DATE: 2001-03-02
;  PRIOR APPLICATION NUMBER: US 09/981,289
;  PRIOR FILING DATE: 2001-10-15
;  NUMBER OF SEQ ID NOS: 33
;  SOFTWARE: PatentIn version 3.2
; SEQ ID NO 13
;   LENGTH: 157
;   TYPE: PRT
;   ORGANISM: Artificial Sequence
;   FEATURE:
;   OTHER INFORMATION: synthetic
;   FEATURE:
;   NAME/KEY: MISC_FEATURE
;   LOCATION: (112)..(112)
;   OTHER INFORMATION: "Xaa" at position 112 can be Asp or Glu
US-10-262-630-13

  Query Match             96.5%;  Score 778;  DB 4;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 8.7e-79;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
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Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
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Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAXPWYEPIYL 120

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
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RESULT 4
US-10-354-985-2
; Sequence 2, Application US/10354985
; Publication No. US20040001802A1
; GENERAL INFORMATION:
;  APPLICANT: MAYUMI, Tandanori et al.
;  TITLE OF INVENTION: PHYSIOLOGICALLY ACTIVE COMPLEX
;  FILE REFERENCE: MAYUMI=2
;  CURRENT APPLICATION NUMBER: US/10/354,985
;  CURRENT FILING DATE:  2003-01-31
;  PRIOR APPLICATION NUMBER: JP 083509/2002
;  PRIOR FILING DATE: 2002-03-25
;  PRIOR APPLICATION NUMBER: JP 1185387/2002
;  PRIOR FILING DATE: 2002-06-26
;  NUMBER OF SEQ ID NOS: 12
;  SOFTWARE: PatentIn version 3.2
; SEQ ID NO 2
;   LENGTH: 157
;   TYPE: PRT
;   ORGANISM: Artificial
;   FEATURE:
;   OTHER INFORMATION: Variant protein of human tumor necrosis factor
;   FEATURE:
;   NAME/KEY: misc_feature
;   LOCATION: (11)..(11)
;   OTHER INFORMATION: Xaa can be any naturally occurring amino acid
;   FEATURE:
;   NAME/KEY: misc_feature
;   LOCATION: (65)..(65)
;   OTHER INFORMATION: Xaa can be any naturally occurring amino acid
;   FEATURE:
;   NAME/KEY: misc_feature
;   LOCATION: (90)..(90)
;   OTHER INFORMATION: Xaa can be any naturally occurring amino acid
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;   NAME/KEY: misc_feature
;   LOCATION: (98)..(98)
;   OTHER INFORMATION: Xaa can be any naturally occurring amino acid
;   FEATURE:
;   NAME/KEY: misc_feature
;   LOCATION: (112)..(112)
;   OTHER INFORMATION: Xaa can be any naturally occurring amino acid
;   FEATURE:
;   NAME/KEY: misc_feature
;   LOCATION: (128)..(128)
;   OTHER INFORMATION: Xaa can be any naturally occurring amino acid
US-10-354-985-2

  Query Match             96.5%;  Score 778;  DB 4;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 8.7e-79;
  Matches  151;  Conservative    0;  Mismatches    6;  Indels    0;  Gaps    0;
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Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
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Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
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Db         61 QVLFXGQGCPSTHVLLTHTISRIAVSYQTXVNLLSAIXSPCQRETPEGAEAXPWYEPIYL 120

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||||||||||||||||||||||
Db        121 GGVFQLEXGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 5
US-10-668-178-2
; Sequence 2, Application US/10668178
; Publication No. US20050013795A1
; GENERAL INFORMATION:
;  APPLICANT: KABUSHIKI KAISHA HAYASHIBARA SEIBUTSU KAGAKU KENKYUJO
;  APPLICANT:  MAYUMI, Tadanori
;  APPLICANT:  TSUTSUMI, Yasuo
;  APPLICANT:  NAKAGAWA, Shinsaku
;  APPLICANT:  IKEGAMI, Hakuo
;  TITLE OF INVENTION: Biologically-active conjugate
;  FILE REFERENCE: MAYUMI2A
;  CURRENT APPLICATION NUMBER: US/10/668,178
;  CURRENT FILING DATE:  2003-09-24
;  PRIOR APPLICATION NUMBER: JP 83509/2002
;  PRIOR FILING DATE: 2002-03-25
;  PRIOR APPLICATION NUMBER: JP 185387/2002
;  PRIOR FILING DATE: 2002-06-26
;  NUMBER OF SEQ ID NOS: 16
;  SOFTWARE: PatentIn version 3.3
; SEQ ID NO 2
;   LENGTH: 157
;   TYPE: PRT
;   ORGANISM: Artificial
;   FEATURE:
;   OTHER INFORMATION: synthetic (Variant protein of human tumor necrosis factor)
;   FEATURE:
;   NAME/KEY: misc_feature
;   LOCATION: (11)..(11)
;   OTHER INFORMATION: Xaa can be any naturally occurring amino acid
;   FEATURE:
;   NAME/KEY: misc_feature
;   LOCATION: (65)..(65)
;   OTHER INFORMATION: Xaa can be any naturally occurring amino acid
;   FEATURE:
;   NAME/KEY: misc_feature
;   LOCATION: (90)..(90)
;   OTHER INFORMATION: Xaa can be any naturally occurring amino acid
;   FEATURE:
;   NAME/KEY: misc_feature
;   LOCATION: (98)..(98)
;   OTHER INFORMATION: Xaa can be any naturally occurring amino acid
;   FEATURE:
;   NAME/KEY: misc_feature
;   LOCATION: (112)..(112)
;   OTHER INFORMATION: Xaa can be any naturally occurring amino acid
;   FEATURE:
;   NAME/KEY: misc_feature
;   LOCATION: (128)..(128)
;   OTHER INFORMATION: Xaa can be any naturally occurring amino acid
US-10-668-178-2

  Query Match             96.5%;  Score 778;  DB 5;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 8.7e-79;
  Matches  151;  Conservative    0;  Mismatches    6;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDXPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| |||||||||||||||||||||| ||||||| |||||||||||| ||||||||
Db         61 QVLFXGQGCPSTHVLLTHTISRIAVSYQTXVNLLSAIXSPCQRETPEGAEAXPWYEPIYL 120

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||||||||||||||||||||||
Db        121 GGVFQLEXGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 6
US-09-756-301A-1
; Sequence 1, Application US/09756301A
; Patent No. US20010027249A1
; GENERAL INFORMATION:
;  APPLICANT: Le, Junming
;  APPLICANT:  Vilcek, Jan
;  APPLICANT:  Daddona, Peter
;  APPLICANT:  Ghrayeb, John
;  APPLICANT:  Knight, David M.
;  APPLICANT:  Siegel, Scott
;  TITLE OF INVENTION: Anti-TNF Antibodies and Peptides of
;  TITLE OF INVENTION:  Human Tumor Necrosis Factor
;  FILE REFERENCE: 0975.1005-008
;  CURRENT APPLICATION NUMBER: US/09/756,301A
;  CURRENT FILING DATE:  2001-01-08
;  PRIOR APPLICATION NUMBER: U.S. 09/133,119
;  PRIOR FILING DATE: 1998-08-12
;  PRIOR APPLICATION NUMBER: U.S. 08/570,674
;  PRIOR FILING DATE: 1995-12-11
;  PRIOR APPLICATION NUMBER: U.S. 08/324,799
;  PRIOR FILING DATE: 1994-10-18
;  PRIOR APPLICATION NUMBER: U.S. 08/192,102
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: U.S. 08/192,861
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: U.S. 08/192,093
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: U.S. 08/010,406
;  PRIOR FILING DATE: 1993-01-29
;  PRIOR APPLICATION NUMBER: U.S. 08/013,413
;  PRIOR FILING DATE: 1993-02-02
;  PRIOR APPLICATION NUMBER: U.S. 07/943,852
;  PRIOR FILING DATE: 1992-09-11
;  PRIOR APPLICATION NUMBER: U.S. 07/853,606
;  PRIOR FILING DATE: 1992-03-18
;  PRIOR APPLICATION NUMBER: U.S.07/670,827
;  PRIOR FILING DATE: 1991-03-18
;  NUMBER OF SEQ ID NOS: 19
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 1
;   LENGTH: 157
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-09-756-301A-1

  Query Match             96.4%;  Score 777;  DB 3;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 1.1e-78;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| |||||||||||||||||||||:||||||| |||||||||||| ||||||||
Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||||||||||||||||||||||
Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
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RESULT 7
US-09-927-703-1
; Sequence 1, Application US/09927703
; Patent No. US20020022720A1
; GENERAL INFORMATION:
;  APPLICANT: Le, Junming
;  APPLICANT:  Vilcek, Jan
;  APPLICANT:  Daddona, Peter
;  APPLICANT:  Ghrayeb, John
;  APPLICANT:  Knight, David M.
;  APPLICANT:  Siegel, Scott
;  TITLE OF INVENTION: Anti-TNF Antibodies and Peptides of
;  TITLE OF INVENTION:  Human Tumor Necrosis Factor
;  FILE REFERENCE: 0975.1005-013
;  CURRENT APPLICATION NUMBER: US/09/927,703
;  CURRENT FILING DATE:  2001-08-10
;  PRIOR APPLICATION NUMBER: U.S. 09/756,398
;  PRIOR FILING DATE: 2001-01-08
;  PRIOR APPLICATION NUMBER: U.S. 09/133,119
;  PRIOR FILING DATE: 1998-08-12
;  PRIOR APPLICATION NUMBER: U.S. 08/570,674
;  PRIOR FILING DATE: 1995-12-11
;  PRIOR APPLICATION NUMBER: U.S. 08/324,799
;  PRIOR FILING DATE: 1994-10-18
;  PRIOR APPLICATION NUMBER: U.S. 08/192,102
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: U.S. 08/192,861
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: U.S. 08/192,093
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: U.S. 08/010,406
;  PRIOR FILING DATE: 1993-01-29
;  PRIOR APPLICATION NUMBER: U.S. 08/013,413
;  PRIOR FILING DATE: 1993-02-02
;  PRIOR APPLICATION NUMBER: U.S. 07/943,852
;  PRIOR FILING DATE: 1992-09-11
;  PRIOR APPLICATION NUMBER: U.S. 07/853,606
;  PRIOR FILING DATE: 1992-03-18
;  PRIOR APPLICATION NUMBER: U.S. 07/670,827
;  PRIOR FILING DATE: 1991-03-18
;  NUMBER OF SEQ ID NOS: 19
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 1
;   LENGTH: 157
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-09-927-703-1

  Query Match             96.4%;  Score 777;  DB 3;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 1.1e-78;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| |||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| |||||||||||||||||||||:||||||| |||||||||||| ||||||||
Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||||||||||||||||||||||||
Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 8
US-09-854-280-19
; Sequence 19, Application US/09854280
; Patent No. US20020052027A1
; GENERAL INFORMATION:
;  APPLICANT: Chen, Jian
;  APPLICANT:  Filvaroff, Ellen
;  APPLICANT:  Goddard, Audrey
;  APPLICANT:  Gurney, Austin
;  APPLICANT:  Li, Hanzhong
;  APPLICANT:  Wood, William I.
;  TITLE OF INVENTION: IL-17 HOMOLOGOUS POLYPEPTIDES AND THERAPEUTIC USES THEREOF
;  FILE REFERENCE: P1381R1C2
;  CURRENT APPLICATION NUMBER: US/09/854,280
;  CURRENT FILING DATE:  2001-05-10
;  PRIOR APPLICATION NUMBER: US 09/311,832
;  PRIOR FILING DATE: 1999-05-14
;  PRIOR APPLICATION NUMBER: US 60/085,579
;  PRIOR FILING DATE: 1998-05-15
;  PRIOR APPLICATION NUMBER: US 60/113,621
;  PRIOR FILING DATE: 1998-12-23
;  NUMBER OF SEQ ID NOS: 26
; SEQ ID NO 19
;   LENGTH: 157
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-09-854-280-19

  Query Match             96.4%;  Score 777;  DB 3;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 1.1e-78;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| |||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| |||||||||||||||||||||:||||||| |||||||||||| ||||||||
Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||||||||||||||||||||||||
Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 9
US-09-934-465-13
; Sequence 13, Application US/09934465
; Patent No. US20020102233A1
; GENERAL INFORMATION:
;  APPLICANT: Ashkenazi, Avi J.
;  TITLE OF INVENTION: APO-2 LIGAND
;  FILE REFERENCE: 11669.22US03
;  CURRENT APPLICATION NUMBER: US/09/934,465
;  CURRENT FILING DATE:  2001-08-21
;  PRIOR APPLICATION NUMBER: 08/584,031
;  PRIOR FILING DATE: 1996-01-09
;  NUMBER OF SEQ ID NOS: 17
;  SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 13
;   LENGTH: 157
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-09-934-465-13

  Query Match             96.4%;  Score 777;  DB 3;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 1.1e-78;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| |||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| |||||||||||||||||||||:||||||| |||||||||||| ||||||||
Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||||||||||||||||||||||||
Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
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RESULT 10
US-09-766-535A-1
; Sequence 1, Application US/09766535A
; Patent No. US20020106372A1
; GENERAL INFORMATION:
;  APPLICANT: Le, Junming
;  APPLICANT:  Vilcek, Jan
;  APPLICANT:  Daddona, Peter
;  APPLICANT:  Ghrayeb, John
;  APPLICANT:  Knight, David M.
;  APPLICANT:  Siegel, Scott
;  TITLE OF INVENTION: Anti-TNF Antibodies and Peptides of
;  TITLE OF INVENTION:  Human Tumor Necrosis Factor
;  FILE REFERENCE: 0975.1005-010
;  CURRENT APPLICATION NUMBER: US/09/766,535A
;  CURRENT FILING DATE:  2001-01-18
;  PRIOR APPLICATION NUMBER: U.S. 09/133,119
;  PRIOR FILING DATE: 1998-08-12
;  PRIOR APPLICATION NUMBER: U.S. 08/570,674
;  PRIOR FILING DATE: 1995-12-11
;  PRIOR APPLICATION NUMBER: U.S. 08/324,799
;  PRIOR FILING DATE: 1994-10-18
;  PRIOR APPLICATION NUMBER: U.S. 08/192,102
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: U.S. 08/192,861
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: U.S. 08/192,093
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: U.S. 08/010,406
;  PRIOR FILING DATE: 1993-01-29
;  PRIOR APPLICATION NUMBER: U.S. 08/013,413
;  PRIOR FILING DATE: 1993-02-02
;  PRIOR APPLICATION NUMBER: U.S. 07/943,852
;  PRIOR FILING DATE: 1992-09-11
;  PRIOR APPLICATION NUMBER: U.S. 07/853,606
;  PRIOR FILING DATE: 1992-03-18
;  PRIOR APPLICATION NUMBER: U.S. 07/670,827
;  PRIOR FILING DATE: 1991-03-18
;  NUMBER OF SEQ ID NOS: 19
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 1
;   LENGTH: 157
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-09-766-535A-1

  Query Match             96.4%;  Score 777;  DB 3;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 1.1e-78;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| |||||||||||||||||||||:||||||| |||||||||||| ||||||||
Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||||||||||||||||||||||||
Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 11
US-09-854-208-19
; Sequence 19, Application US/09854208
; Patent No. US20020106743A1
; GENERAL INFORMATION:
;  APPLICANT: Chen, Jian
;  APPLICANT:  Filvaroff, Ellen
;  APPLICANT:  Goddard, Audrey
;  APPLICANT:  Gurney, Austin
;  APPLICANT:  Li, Hanzhong
;  APPLICANT:  Wood, William I.
;  TITLE OF INVENTION: IL-17 HOMOLOGOUS POLYPEPTIDES AND THERAPEUTIC USES
;  TITLE OF INVENTION:  THEREOF
;  FILE REFERENCE: P1381-R1
;  CURRENT APPLICATION NUMBER: US/09/854,208
;  CURRENT FILING DATE:  2001-05-10
;  PRIOR APPLICATION NUMBER: US/09/311,832
;  PRIOR FILING DATE: 1999-05-14
;  PRIOR APPLICATION NUMBER: US 60/085,579
;  PRIOR FILING DATE: 1998-05-15
;  PRIOR APPLICATION NUMBER: US 60/113,621
;  PRIOR FILING DATE: 1998-12-23
;  NUMBER OF SEQ ID NOS: 26
; SEQ ID NO 19
;   LENGTH: 157
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-09-854-208-19

  Query Match             96.4%;  Score 777;  DB 3;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 1.1e-78;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| |||||||||||||||||||||:||||||| |||||||||||| ||||||||
Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||||||||||||||||||||||||
Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 12
US-09-756-161A-1
; Sequence 1, Application US/09756161A
; Patent No. US20020132307A1
; GENERAL INFORMATION:
;  APPLICANT: Le, Junming
;  APPLICANT:  Vilcek, Jan
;  APPLICANT:  Daddona, Peter
;  APPLICANT:  Ghrayeb, John
;  APPLICANT:  Knight, David M.
;  APPLICANT:  Siegel, Scott
;  TITLE OF INVENTION: Anti-TNF Antibodies and Peptides of
;  TITLE OF INVENTION:  Human Tumor Necrosis Factor
;  FILE REFERENCE: 0975.1005-007
;  CURRENT APPLICATION NUMBER: US/09/756,161A
;  CURRENT FILING DATE:  2001-01-08
;  PRIOR APPLICATION NUMBER: U.S. 09/133,119
;  PRIOR FILING DATE: 1998-08-12
;  PRIOR APPLICATION NUMBER: U.S. 08/570,674
;  PRIOR FILING DATE: 1995-12-11
;  PRIOR APPLICATION NUMBER: U.S. 08/324,799
;  PRIOR FILING DATE: 1994-10-18
;  PRIOR APPLICATION NUMBER: U.S. 08/192,102
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: U.S. 08/192,861
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: U.S. 08/192,093
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: U.S. 08/010,406
;  PRIOR FILING DATE: 1993-01-29
;  PRIOR APPLICATION NUMBER: U.S. 08/013,413
;  PRIOR FILING DATE: 1993-02-02
;  PRIOR APPLICATION NUMBER: U.S. 07/943,852
;  PRIOR FILING DATE: 1992-09-11
;  PRIOR APPLICATION NUMBER: U.S. 07/853,606
;  PRIOR FILING DATE: 1992-03-18
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;  PRIOR APPLICATION NUMBER: U.S.07/670,827
;  PRIOR FILING DATE: 1991-03-18
;  NUMBER OF SEQ ID NOS: 19
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 1
;   LENGTH: 157
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-09-756-161A-1

  Query Match             96.4%;  Score 777;  DB 3;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 1.1e-78;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| |||||||||||||||||||||:||||||| |||||||||||| ||||||||
Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||||||||||||||||||||||||
Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 13
US-09-903-327A-7
; Sequence 7, Application US/09903327A
; Patent No. US20020164333A1
; GENERAL INFORMATION:
;  APPLICANT: Nemerow, Glen R.
;  APPLICANT:  Li, Erguang
;  TITLE OF INVENTION: BIFUNCTIONAL MOLECULES AND VECTORS COMPLEXED THEREWITH FOR TARGET
;  TITLE OF INVENTION:  GENE
;  TITLE OF INVENTION:  DELIVERY
;  FILE REFERENCE: 22908-1228
;  CURRENT APPLICATION NUMBER: US/09/903,327A
;  CURRENT FILING DATE:  2001-07-10
;  PRIOR APPLICATION NUMBER: 09/613,017
;  PRIOR FILING DATE: 2000-07-10
;  NUMBER OF SEQ ID NOS: 33
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 7
;   LENGTH: 157
;   TYPE: PRT
;   ORGANISM: Human
;   FEATURE:
;   NAME/KEY: PEPTIDE
;   LOCATION: (0)...(0)
;   OTHER INFORMATION: Tumor necrosis factor-alpha (TNF alpha, mature
;   OTHER INFORMATION: peptide)
US-09-903-327A-7

  Query Match             96.4%;  Score 777;  DB 3;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 1.1e-78;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| |||||||||||||||||||||:||||||| |||||||||||| ||||||||
Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||||||||||||||||||||||||
Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 14
US-09-756-398B-1
; Sequence 1, Application US/09756398B
; Publication No. US20030017584A1
; GENERAL INFORMATION:
;  APPLICANT: Le, Junming
;  APPLICANT:  Vilcek, Jan
;  APPLICANT:  Daddona, Peter
;  APPLICANT:  Ghrayeb, John
;  APPLICANT:  Knight, David M.
;  APPLICANT:  Siegel, Scott
;  TITLE OF INVENTION: Anti-TNF Antibodies and Peptides of
;  TITLE OF INVENTION:  Human Tumor Necrosis Factor
;  FILE REFERENCE: 0975.1005-006
;  CURRENT APPLICATION NUMBER: US/09/756,398B
;  CURRENT FILING DATE:  2001-01-08
;  PRIOR APPLICATION NUMBER: U.S. 09/133,119
;  PRIOR FILING DATE: 1998-08-12
;  PRIOR APPLICATION NUMBER: U.S. 08/570,674
;  PRIOR FILING DATE: 1995-12-11
;  PRIOR APPLICATION NUMBER: U.S. 08/324,799
;  PRIOR FILING DATE: 1994-10-18
;  PRIOR APPLICATION NUMBER: U.S. 08/192,102
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: U.S. 08/192,861
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: U.S. 08/192,093
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: U.S. 08/010,406
;  PRIOR FILING DATE: 1993-01-29
;  PRIOR APPLICATION NUMBER: U.S. 08/013,413
;  PRIOR FILING DATE: 1993-02-02
;  PRIOR APPLICATION NUMBER: U.S. 07/943,852
;  PRIOR FILING DATE: 1992-09-11
;  PRIOR APPLICATION NUMBER: U.S. 07/853,606
;  PRIOR FILING DATE: 1992-03-18
;  PRIOR APPLICATION NUMBER: U.S.07/670,827
;  PRIOR FILING DATE: 1991-03-18
;  NUMBER OF SEQ ID NOS: 19
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 1
;   LENGTH: 157
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-09-756-398B-1

  Query Match             96.4%;  Score 777;  DB 3;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 1.1e-78;
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Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
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Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
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Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
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RESULT 15
US-09-897-724-1
; Sequence 1, Application US/09897724
; Publication No. US20030175837A1
; GENERAL INFORMATION:
;  APPLICANT: Le, Junming
;  APPLICANT:  Vilcek, Jan
;  APPLICANT:  Daddona, Peter
;  APPLICANT:  Ghrayeb, John
;  APPLICANT:  Knight, David M.
;  APPLICANT:  Siegel, Scott
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;  TITLE OF INVENTION: Anti-TNF Antibodies and Peptides of
;  TITLE OF INVENTION:  Human Tumor Necrosis Factor
;  FILE REFERENCE: 0975.1005-012
;  CURRENT APPLICATION NUMBER: US/09/897,724
;  CURRENT FILING DATE:  2001-07-02
;  PRIOR APPLICATION NUMBER: U.S. 08/192,093
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: U.S. 08/010,406
;  PRIOR FILING DATE: 1993-01-29
;  PRIOR APPLICATION NUMBER: U.S. 08/013,413
;  PRIOR FILING DATE: 1993-02-02
;  PRIOR APPLICATION NUMBER: U.S. 07/943,852
;  PRIOR FILING DATE: 1992-09-11
;  PRIOR APPLICATION NUMBER: U.S.07/853,606
;  PRIOR FILING DATE: 1992-03-18
;  PRIOR APPLICATION NUMBER: U.S. 07/670,827
;  PRIOR FILING DATE: 1991-03-18
;  NUMBER OF SEQ ID NOS: 19
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 1
;   LENGTH: 157
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-09-897-724-1

  Query Match             96.4%;  Score 777;  DB 3;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 1.1e-78;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
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Search completed: May  5, 2006, 11:30:22
Job time : 46.5 secs
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OM protein - protein search, using sw model

Run on: May 5, 2006, 11:26:47 ; Search time 9.75 Seconds
(without alignments)
745.303 Million cell updates/sec

Title: US-10-668-178-16
Perfect score: 806
Sequence: 1 VRSSSRTPSDAPVAHVVANP.....RPDYLDFAESGQVYFGIIAL 157

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 235405 seqs, 46284737 residues

Total number of hits satisfying chosen parameters: 235405

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : Published_Applications_AA_New:*
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2: /SIDS5/ptodata/1/pubpaa/US06_NEW_PUB.pep:*
3: /SIDS5/ptodata/1/pubpaa/US07_NEW_PUB.pep:*
4: /SIDS5/ptodata/1/pubpaa/US08_NEW_PUB.pep:*
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12: /SIDS5/ptodata/1/pubpaa/US60_NEW_PUB.pep:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	777	96.4	157	11	US-11-010-954-1	Sequence 1, Appli
2	777	96.4	157	11	US-11-053-750-1	Sequence 1, Appli
3	777	96.4	157	11	US-11-053-749-1	Sequence 1, Appli
4	777	96.4	157	11	US-11-108-001-12	Sequence 12, Appl
5	777	96.4	157	11	US-11-170-753-1	Sequence 1, Appli
6	777	96.4	157	11	US-11-179-359-1	Sequence 1, Appli
7	777	96.4	157	11	US-11-181-030-1	Sequence 1, Appli
8	777	96.4	157	11	US-11-182-033-1	Sequence 1, Appli
9	777	96.4	157	11	US-11-195-589-1	Sequence 1, Appli
10	777	96.4	158	11	US-11-082-544-4	Sequence 4, Appli
11	777	96.4	164	11	US-11-108-001-2	Sequence 2, Appli
12	777	96.4	170	8	US-10-490-953-35	Sequence 35, Appl
13	777	96.4	180	11	US-11-082-544-8	Sequence 8, Appli
14	777	96.4	233	9	US-10-523-328-1	Sequence 1, Appli
15	777	96.4	233	11	US-11-246-387-8	Sequence 8, Appli
16	768	95.3	157	9	US-10-504-389A-55	Sequence 55, Appl
17	632.5	78.5	235	11	US-11-032-797-8	Sequence 8, Appli
18	486	60.3	104	11	US-11-065-669-5	Sequence 5, Appli
19	486	60.3	104	11	US-11-249-714-5	Sequence 5, Appli
20	214.5	26.6	177	9	US-10-999-866-61	Sequence 61, Appl
21	214.5	26.6	205	9	US-10-995-561-1028	Sequence 1028, Ap
22	214.5	26.6	205	9	US-10-995-561-1029	Sequence 1029, Ap
23	169.5	21.0	204	11	US-11-136-341A-31	Sequence 31, Appl
24	169.5	21.0	240	11	US-11-136-341A-1	Sequence 1, Appli
25	167.5	20.8	240	9	US-10-987-663-6	Sequence 6, Appli
26	165.5	20.5	179	8	US-10-861-934-14	Sequence 14, Appl
27	165.5	20.5	179	9	US-10-861-934-14	Sequence 14, Appl
28	165.5	20.5	278	8	US-10-861-934-16	Sequence 16, Appl
29	165.5	20.5	278	8	US-10-861-934-26	Sequence 26, Appl
30	165.5	20.5	278	9	US-10-861-934-16	Sequence 16, Appl
31	165.5	20.5	278	9	US-10-861-934-26	Sequence 26, Appl
32	160.5	19.9	137	8	US-10-861-934-10	Sequence 10, Appl
33	160.5	19.9	137	9	US-10-861-934-10	Sequence 10, Appl
34	160.5	19.9	138	8	US-10-861-934-12	Sequence 12, Appl
35	160.5	19.9	138	9	US-10-861-934-12	Sequence 12, Appl
36	159.5	19.8	179	8	US-10-861-934-22	Sequence 22, Appl
37	159.5	19.8	179	9	US-10-861-934-22	Sequence 22, Appl
38	159.5	19.8	279	8	US-10-861-934-24	Sequence 24, Appl
39	159.5	19.8	279	8	US-10-861-934-32	Sequence 32, Appl
40	159.5	19.8	279	9	US-10-861-934-24	Sequence 24, Appl
41	159.5	19.8	279	9	US-10-861-934-32	Sequence 32, Appl
42	159.5	19.8	279	11	US-11-032-797-5	Sequence 5, Appli
43	156	19.4	239	11	US-11-136-341A-2	Sequence 2, Appli
44	155.5	19.3	137	8	US-10-861-934-18	Sequence 18, Appl
45	155.5	19.3	137	9	US-10-861-934-18	Sequence 18, Appl

ALIGNMENTS

RESULT 1
US-11-010-954-1
; Sequence 1, Application US/11010954
; Publication No. US20050249735A1
; GENERAL INFORMATION:
; APPLICANT: Le, Junming
; APPLICANT: Vilcek, Jan
; APPLICANT: Daddona, Peter
; APPLICANT: Ghrayeb, John
; APPLICANT: Knight, David
; APPLICANT: Siegel, Scott
; APPLICANT: Shealy, David
; TITLE OF INVENTION: Methods of Treating Ankylosing Spondylitis Using Anti-TNF Antibo
; TITLE OF INVENTION: and Peptides of Human Tumor Necrosis Factor
; FILE REFERENCE: 0975.1005-043
; CURRENT APPLICATION NUMBER: US/11/010,954
; CURRENT FILING DATE: 2004-12-13
; PRIOR APPLICATION NUMBER: US 10/637,759
; PRIOR FILING DATE: 2003-08-08
; PRIOR APPLICATION NUMBER: US 09/920,137
; PRIOR FILING DATE: 2001-08-01
; PRIOR APPLICATION NUMBER: US 09/927,703
; PRIOR FILING DATE: 2001-08-10
; PRIOR APPLICATION NUMBER: US 09/756,398
; PRIOR FILING DATE: 2001-01-08
; PRIOR APPLICATION NUMBER: US 60/236,826
; PRIOR FILING DATE: 2000-09-29
; PRIOR APPLICATION NUMBER: US 60/223,360
; PRIOR FILING DATE: 2000-08-07
; NUMBER OF SEQ ID NOS: 30
; SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 1
; LENGTH: 157
; TYPE: PRT
; ORGANISM: Homo sapiens
US-11-010-954-1

Query Match 96.4%; Score 777; DB 11; Length 157;
Best Local Similarity 96.2%; Pred. No. 8e-76;
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

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Qy         121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
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RESULT 2
US-11-053-750-1
; Sequence 1, Application US/11053750
; Publication No. US20050255104A1
; GENERAL INFORMATION:
;  APPLICANT: Le, Junming
;  APPLICANT:  Vilcek, Jan
;  APPLICANT:  Daddona, Peter
;  APPLICANT:  Ghrayeb, John
;  APPLICANT:  Knight, David
;  APPLICANT:  Siegel, Scott
;  APPLICANT:  Scallon, Bernard
;  TITLE OF INVENTION: Methods of Treating Psoriasis Using
;  TITLE OF INVENTION:  Anti-TNF Receptor Fusion Proteins
;  FILE REFERENCE: 0975.1005-045
;  CURRENT APPLICATION NUMBER: US/11/053,750
;  CURRENT FILING DATE:  2005-02-07
;  PRIOR APPLICATION NUMBER: U.S. 09/927,703
;  PRIOR FILING DATE: 2001-08-10
;  PRIOR APPLICATION NUMBER: U.S. 09/756,398
;  PRIOR FILING DATE: 2001-01-08
;  PRIOR APPLICATION NUMBER: U.S. 09/133,119
;  PRIOR FILING DATE: 1998-08-12
;  PRIOR APPLICATION NUMBER: U.S. 08/570,674
;  PRIOR FILING DATE: 1995-12-11
;  PRIOR APPLICATION NUMBER: U.S. 08/324,799
;  PRIOR FILING DATE: 1994-10-18
;  PRIOR APPLICATION NUMBER: U.S. 08/192,102
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: U.S. 08/192,861
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: U.S. 08/192,093
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: U.S. 09/010,406
;  PRIOR FILING DATE: 1993-01-29
;  PRIOR APPLICATION NUMBER: U.S. 08/013,413
;  PRIOR FILING DATE: 1993-02-02
;  NUMBER OF SEQ ID NOS: 30
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 1
;   LENGTH: 157
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-11-053-750-1

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  Best Local Similarity   96.2%;  Pred. No. 8e-76;
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Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
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Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 3
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US-11-053-749-1
; Sequence 1, Application US/11053749
; Publication No. US20050260201A1
; GENERAL INFORMATION:
;  APPLICANT: Le, Junming
;  APPLICANT:  Vilcek, Jan
;  APPLICANT:  Daddona, Peter
;  APPLICANT:  Ghrayeb, John
;  APPLICANT:  Knight, David
;  APPLICANT:  Siegel, Scott
;  APPLICANT:  Scallon, Bernard
;  TITLE OF INVENTION: Methods of Treating Rheumatoid Arthritis
;  TITLE OF INVENTION:  Using Anti-TNF Receptor Fusion Proteins
;  FILE REFERENCE: 0975.1005-040
;  CURRENT APPLICATION NUMBER: US/11/053,749
;  CURRENT FILING DATE:  2005-02-07
;  PRIOR APPLICATION NUMBER: US/09/927,703
;  PRIOR FILING DATE: 2001-08-10
;  PRIOR APPLICATION NUMBER: U.S. 09/927,703
;  PRIOR FILING DATE: 2001-08-10
;  PRIOR APPLICATION NUMBER: U.S. 09/756,398
;  PRIOR FILING DATE: 2001-01-08
;  PRIOR APPLICATION NUMBER: U.S. 09/133,119
;  PRIOR FILING DATE: 1998-08-12
;  PRIOR APPLICATION NUMBER: U.S. 08/570,674
;  PRIOR FILING DATE: 1995-12-11
;  PRIOR APPLICATION NUMBER: U.S. 08/324,799
;  PRIOR FILING DATE: 1994-10-18
;  PRIOR APPLICATION NUMBER: U.S. 08/192,102
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: U.S. 08/192,861
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: U.S. 08/192,093
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: U.S.08/010,406
;  PRIOR FILING DATE: 1993-01-29
;  Remaining Prior Application data removed - See File Wrapper or PALM.
;  NUMBER OF SEQ ID NOS: 30
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 1
;   LENGTH: 157
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-11-053-749-1

  Query Match             96.4%;  Score 777;  DB 11;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 8e-76;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
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RESULT 4
US-11-108-001-12
; Sequence 12, Application US/11108001
; Publication No. US20050265962A1
; GENERAL INFORMATION:
;  APPLICANT: Desjarlais, John R.
;  APPLICANT:  Steed, Paul Michael
;  APPLICANT:  Zalevsky, Jonathan
;  APPLICANT:  Szymkowski, David Edmund
;  TITLE OF INVENTION: PROTEIN BASED TNF-ALPHA VARIANTS FOR THE TREATMENT OF TNF-ALPHA
;  TITLE OF INVENTION:  RELATED DISORDERS
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;  FILE REFERENCE: A-68990-7
;  CURRENT APPLICATION NUMBER: US/11/108,001
;  CURRENT FILING DATE:  2005-04-14
;  PRIOR APPLICATION NUMBER: US 10/963,994
;  PRIOR FILING DATE: 2004-10-12
;  PRIOR APPLICATION NUMBER: US 09/798,789
;  PRIOR FILING DATE: 2001-03-02
;  PRIOR APPLICATION NUMBER: US 09/945,150
;  PRIOR FILING DATE: 2001-08-31
;  PRIOR APPLICATION NUMBER: US 09/981,289
;  PRIOR FILING DATE: 2001-10-15
;  PRIOR APPLICATION NUMBER: US 10/262,630
;  PRIOR FILING DATE: 2002-09-30
;  PRIOR APPLICATION NUMBER: US 60/553,908
;  PRIOR FILING DATE: 2004-03-17
;  PRIOR APPLICATION NUMBER: US 60/510,430
;  PRIOR FILING DATE: 2003-10-10
;  PRIOR APPLICATION NUMBER: US 60/509,960
;  PRIOR FILING DATE: 2003-10-09
;  PRIOR APPLICATION NUMBER: US 60/528,275
;  PRIOR FILING DATE: 2003-12-08
;  PRIOR APPLICATION NUMBER: US 60/523,647
;  PRIOR FILING DATE: 2003-11-20
;  Remaining Prior Application data removed - See File Wrapper or PALM.
;  NUMBER OF SEQ ID NOS: 13
;  SOFTWARE: PatentIn version 3.3
; SEQ ID NO 12
;   LENGTH: 157
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-11-108-001-12

  Query Match             96.4%;  Score 777;  DB 11;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 8e-76;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| |||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
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Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
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Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 5
US-11-170-753-1
; Sequence 1, Application US/11170753
; Publication No. US20060013816A1
; GENERAL INFORMATION:
;  APPLICANT: Le, Junming
;  APPLICANT:  Vilcek, Jan
;  APPLICANT:  Daddona, Peter
;  APPLICANT:  Ghrayeb, John
;  APPLICANT:  Knight, David
;  APPLICANT:  Siegel, Scott
;  TITLE OF INVENTION: Methods of Treating Psoriasis Using
;  TITLE OF INVENTION:  Human Anti-TNF Antibodies and Fragments
;  FILE REFERENCE: 0975.1005-050
;  CURRENT APPLICATION NUMBER: US/11/170,753
;  CURRENT FILING DATE:  2005-06-29
;  PRIOR APPLICATION NUMBER: U.S. 09/927,703
;  PRIOR FILING DATE: 2001-08-10
;  PRIOR APPLICATION NUMBER: U.S. 09/756,398
;  PRIOR FILING DATE: 2001-01-08
;  PRIOR APPLICATION NUMBER: U.S. 09/133,119
;  PRIOR FILING DATE: 1998-08-12
;  PRIOR APPLICATION NUMBER: U.S. 08/570,674
;  PRIOR FILING DATE: 1995-12-11
;  PRIOR APPLICATION NUMBER: U.S. 08/324,799
;  PRIOR FILING DATE: 1994-10-18
;  PRIOR APPLICATION NUMBER: U.S. 08/192,102
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: U.S. 08/192,861
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: U.S. 08/192,093
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: U.S.08/010,406
;  PRIOR FILING DATE: 1993-01-29
;  PRIOR APPLICATION NUMBER: U.S. 08/013,413
;  PRIOR FILING DATE: 1993-02-02
;  Remaining Prior Application data removed - See File Wrapper or PALM.
;  NUMBER OF SEQ ID NOS: 30
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 1
;   LENGTH: 157
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-11-170-753-1

  Query Match             96.4%;  Score 777;  DB 11;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 8e-76;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| |||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| |||||||||||||||||||||:||||||| |||||||||||||| ||||||||
Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||||||||||||||||||||||||
Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 6
US-11-179-359-1
; Sequence 1, Application US/11179359
; Publication No. US20060018905A1
; GENERAL INFORMATION:
;  APPLICANT: Le, Junming
;  APPLICANT:  Vilcek, Jan
;  APPLICANT:  Daddona, Peter
;  APPLICANT:  Ghrayeb, John
;  APPLICANT:  Knight, David
;  APPLICANT:  Siegel, Scott
;  TITLE OF INVENTION: Methods for Treating Systemic Lupus Erythematosus
;  TITLE OF INVENTION:  Using Anti-TNF Antibodies and Fragments Thereof
;  FILE REFERENCE: 0975.1005-054
;  CURRENT APPLICATION NUMBER: US/11/179,359
;  CURRENT FILING DATE:  2005-07-12
;  PRIOR APPLICATION NUMBER: U.S. 09/927,703
;  PRIOR FILING DATE: 2001-08-10
;  PRIOR APPLICATION NUMBER: U.S. 09/756,398
;  PRIOR FILING DATE: 2001-01-08
;  PRIOR APPLICATION NUMBER: U.S. 09/133,119
;  PRIOR FILING DATE: 1998-08-12
;  PRIOR APPLICATION NUMBER: U.S. 08/570,674
;  PRIOR FILING DATE: 1995-12-11
;  PRIOR APPLICATION NUMBER: U.S. 08/324,799
;  PRIOR FILING DATE: 1994-10-18
;  PRIOR APPLICATION NUMBER: U.S. 08/192,102
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: U.S. 08/192,861
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: U.S. 08/192,093
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: U.S.08/010,406
;  PRIOR FILING DATE: 1993-01-29
;  PRIOR APPLICATION NUMBER: U.S. 08/013,413
```

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;  PRIOR FILING DATE: 1993-02-02
;  Remaining Prior Application data removed - See File Wrapper or PALM.
;  NUMBER OF SEQ ID NOS: 30
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 1
;   LENGTH: 157
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-11-179-359-1

  Query Match             96.4%;  Score 777;  DB 11;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 8e-76;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| |||||||||||||||||||||:||||||| ||||||||||||| ||||||||
Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||||||||||||||||||||||||
Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 7
US-11-181-030-1
; Sequence 1, Application US/11181030
; Publication No. US20060018906A1
; GENERAL INFORMATION:
;  APPLICANT: Le, Junming
;  APPLICANT:  Vilcek, Jan
;  APPLICANT:  Daddona, Peter
;  APPLICANT:  Ghrayeb, John
;  APPLICANT:  Knight, David
;  APPLICANT:  Siegel, Scott
;  TITLE OF INVENTION: Methods for Treating Sarcoidosis Using
;  TITLE OF INVENTION:  Anti-TNF Antibodies and Fragments Thereof
;  FILE REFERENCE: 0975.1005-055
;  CURRENT APPLICATION NUMBER: US/11/181,030
;  CURRENT FILING DATE:  2005-07-13
;  PRIOR APPLICATION NUMBER: U.S. 09/927,703
;  PRIOR FILING DATE: 2001-08-10
;  PRIOR APPLICATION NUMBER: U.S. 09/756,398
;  PRIOR FILING DATE: 2001-01-08
;  PRIOR APPLICATION NUMBER: U.S. 09/133,119
;  PRIOR FILING DATE: 1998-08-12
;  PRIOR APPLICATION NUMBER: U.S. 08/570,674
;  PRIOR FILING DATE: 1995-12-11
;  PRIOR APPLICATION NUMBER: U.S. 08/324,799
;  PRIOR FILING DATE: 1994-10-18
;  PRIOR APPLICATION NUMBER: U.S. 08/192,102
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: U.S. 08/192,861
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: U.S. 08/192,093
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: U.S.08/010,406
;  PRIOR FILING DATE: 1993-01-29
;  PRIOR APPLICATION NUMBER: U.S. 08/013,413
;  PRIOR FILING DATE: 1993-02-02
;  Remaining Prior Application data removed - See File Wrapper or PALM.
;  NUMBER OF SEQ ID NOS: 30
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 1
;   LENGTH: 157
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-11-181-030-1

  Query Match             96.4%;  Score 777;  DB 11;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 8e-76;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| |||||||||||||||||||||:||||||| ||||||||||||| ||||||||
Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||||||||||||||||||||||||
Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 8
US-11-182-033-1
; Sequence 1, Application US/11182033
; Publication No. US20060018907A1
; GENERAL INFORMATION:
;  APPLICANT: Le, Junming
;  APPLICANT:  Vilcek, Jan
;  APPLICANT:  Daddona, Peter
;  APPLICANT:  Ghrayeb, John
;  APPLICANT:  Knight, David
;  APPLICANT:  Siegel, Scott
;  APPLICANT:  Shealy, David
;  TITLE OF INVENTION: Anti-TNF Antibodies and Peptides of Human
;  TITLE OF INVENTION:  Tumor Necrosis Factor
;  FILE REFERENCE: 0975.1005-044
;  CURRENT APPLICATION NUMBER: US/11/182,033
;  CURRENT FILING DATE:  2005-07-14
;  PRIOR APPLICATION NUMBER: US 10/637,759
;  PRIOR FILING DATE: 2003-08-08
;  PRIOR APPLICATION NUMBER: US 09/920,137
;  PRIOR FILING DATE: 2001-08-01
;  PRIOR APPLICATION NUMBER: US 09/927,703
;  PRIOR FILING DATE: 2001-08-10
;  PRIOR APPLICATION NUMBER: US 09/756,398
;  PRIOR FILING DATE: 2001-01-08
;  PRIOR APPLICATION NUMBER: US 60/236,826
;  PRIOR FILING DATE: 2000-09-29
;  PRIOR APPLICATION NUMBER: US 60/223,360
;  PRIOR FILING DATE: 2000-08-07
;  NUMBER OF SEQ ID NOS: 30
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 1
;   LENGTH: 157
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-11-182-033-1

  Query Match             96.4%;  Score 777;  DB 11;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 8e-76;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| |||||||||||||||||||||:||||||| ||||||||||||| ||||||||
Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||||||||||||||||||||||||
Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 9
US-11-195-589-1
; Sequence 1, Application US/11195589
```

```
; Publication No. US20060024310A1
; GENERAL INFORMATION:
;  APPLICANT: Le, Junming
;  APPLICANT:  Vilcek, Jan
;  APPLICANT:  Daddona, Peter
;  APPLICANT:  Ghrayeb, John
;  APPLICANT:  Knight, David
;  APPLICANT:  Siegel, Scott
;  TITLE OF INVENTION: Methods of Treating TNFa-Mediated
;  TITLE OF INVENTION:  Tissue Injury Using Anti-TNF Antibodies and Peptides
;  FILE REFERENCE: 0975.1005-042
;  CURRENT APPLICATION NUMBER: US/11/195,589
;  CURRENT FILING DATE:  2005-08-02
;  PRIOR APPLICATION NUMBER: US 09/927,703
;  PRIOR FILING DATE: 2001-08-10
;  PRIOR APPLICATION NUMBER: US 09/756,398
;  PRIOR FILING DATE: 2001-01-08
;  PRIOR APPLICATION NUMBER: US 09/133,119
;  PRIOR FILING DATE: 1998-08-12
;  PRIOR APPLICATION NUMBER: US 08/570,674
;  PRIOR FILING DATE: 1995-12-11
;  PRIOR APPLICATION NUMBER: US 08/324,799
;  PRIOR FILING DATE: 1994-10-18
;  PRIOR APPLICATION NUMBER: US 08/192,102
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: US 08/192,861
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: US 08/192,093
;  PRIOR FILING DATE: 1994-02-04
;  PRIOR APPLICATION NUMBER: US 08/010,406
;  PRIOR FILING DATE: 1993-01-29
;  PRIOR APPLICATION NUMBER: US 08/013,413
;  PRIOR FILING DATE: 02-02-1993
;  Remaining Prior Application data removed - See File Wrapper or PALM.
;  NUMBER OF SEQ ID NOS: 30
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 1
;   LENGTH: 157
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-11-195-589-1

  Query Match             96.4%;  Score 777;  DB 11;  Length 157;
  Best Local Similarity   96.2%;  Pred. No. 8e-76;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| |||||||||||||||||||||:||||||| |||||||||||||| ||||||||
Db         61 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 120

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||||||||||||||||||||||||
Db        121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157


RESULT 10
US-11-082-544-4
; Sequence 4, Application US/11082544
; Publication No. US20050249706A1
; GENERAL INFORMATION:
;  APPLICANT: Bermudes, G.
;  APPLICANT:  King, I.
;  APPLICANT:  Clairmont, C.
;  APPLICANT:  Lin, S.
;  APPLICANT:  Belcourt, M.
;  TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR
;  TITLE OF INVENTION:  TUMOR-TARGETED DELIVERY OF EFFECTOR MOLECULES
;  FILE REFERENCE: 8002-059
;  CURRENT APPLICATION NUMBER: US/11/082,544
;  CURRENT FILING DATE:  2005-03-17
;  PRIOR APPLICATION NUMBER: US/09/645,415
;  PRIOR FILING DATE: 2000-08-24
;  PRIOR APPLICATION NUMBER: 60/157,581
;  PRIOR FILING DATE: 1999-10-04
;  PRIOR APPLICATION NUMBER: 60/157,637
;  PRIOR FILING DATE: 1999-10-04
;  NUMBER OF SEQ ID NOS: 61
;  SOFTWARE: FastSEQ for Windows Version 3.0
; SEQ ID NO 4
;   LENGTH: 158
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-11-082-544-4

  Query Match             96.4%;  Score 777;  DB 11;  Length 158;
  Best Local Similarity   96.2%;  Pred. No. 8.1e-76;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||
Db          2 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 61

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| |||||||||||||||||||||:||||||| |||||||||||||| ||||||||
Db         62 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 121

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||||||||||||||||||||||||
Db        122 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 158


RESULT 11
US-11-108-001-2
; Sequence 2, Application US/11108001
; Publication No. US20050265962A1
; GENERAL INFORMATION:
;  APPLICANT: Desjarlais, John R.
;  APPLICANT:  Steed, Paul Michael
;  APPLICANT:  Zalevsky, Jonathan
;  APPLICANT:  Szymkowski, David Edmund
;  TITLE OF INVENTION: PROTEIN BASED TNF-ALPHA VARIANTS FOR THE TREATMENT OF TNF-ALPHA
;  TITLE OF INVENTION:  RELATED DISORDERS
;  FILE REFERENCE: A-68990-7
;  CURRENT APPLICATION NUMBER: US/11/108,001
;  CURRENT FILING DATE:  2005-04-14
;  PRIOR APPLICATION NUMBER: US 10/963,994
;  PRIOR FILING DATE: 2004-10-12
;  PRIOR APPLICATION NUMBER: US 09/798,789
;  PRIOR FILING DATE: 2001-03-02
;  PRIOR APPLICATION NUMBER: US 09/945,150
;  PRIOR FILING DATE: 2001-08-31
;  PRIOR APPLICATION NUMBER: US 09/981,289
;  PRIOR FILING DATE: 2001-10-15
;  PRIOR APPLICATION NUMBER: US 10/262,630
;  PRIOR FILING DATE: 2002-09-30
;  PRIOR APPLICATION NUMBER: US 60/553,908
;  PRIOR FILING DATE: 2004-03-17
;  PRIOR APPLICATION NUMBER: US 60/510,430
;  PRIOR FILING DATE: 2003-10-10
;  PRIOR APPLICATION NUMBER: US 60/509,960
;  PRIOR FILING DATE: 2003-10-09
;  PRIOR APPLICATION NUMBER: US 60/528,275
;  PRIOR FILING DATE: 2003-12-08
;  PRIOR APPLICATION NUMBER: US 60/523,647
;  PRIOR FILING DATE: 2003-11-20
;  Remaining Prior Application data removed - See File Wrapper or PALM.
;  NUMBER OF SEQ ID NOS: 13
;  SOFTWARE: PatentIn version 3.3
; SEQ ID NO 2
;   LENGTH: 164
;   TYPE: PRT
;   ORGANISM: Homo sapiens
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US-11-108-001-2

  Query Match             96.4%;  Score 777;  DB 11;  Length 164;
  Best Local Similarity   96.2%;  Pred. No. 8.5e-76;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| |||||||||||||||||||||||||||||||||||||||||||||||||
Db          8 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 67

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| |||||||||||||||||||||||:||||||| ||||||||||||| ||||||||
Db         68 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 127

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||||||||||||||||||||||||
Db        128 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 164


RESULT 12
US-10-490-953-35
; Sequence 35, Application US/10490953
; Publication No. US20060088908A1
; GENERAL INFORMATION:
;  APPLICANT: SKERRA, ARNE
;  APPLICANT:  SCHLEHUBER, STEFFEN
;  TITLE OF INVENTION: MUTEINS OF HUMAN NEUTROPHIL GELATINASE-ASSOCIATED LIPOCALIN AND
;  TITLE OF INVENTION:  RELATED PROTEINS
;  FILE REFERENCE: 029029-0104
;  CURRENT APPLICATION NUMBER: US/10/490,953
;  CURRENT FILING DATE:  2004-03-29
;  PRIOR APPLICATION NUMBER: PCT/EP02/10490
;  PRIOR FILING DATE: 2002-09-18
;  PRIOR APPLICATION NUMBER: PCT/EP02/04223
;  PRIOR FILING DATE: 2002-04-16
;  PRIOR APPLICATION NUMBER: PCT/EP01/11213
;  PRIOR FILING DATE: 2001-09-27
;  NUMBER OF SEQ ID NOS: 39
;  SOFTWARE: PatentIn version 3.2
; SEQ ID NO 35
;   LENGTH: 170
;   TYPE: PRT
;   ORGANISM: Artificial Sequence
;   FEATURE:
;   OTHER INFORMATION: Description of Artificial Sequence: Synthetic
;   OTHER INFORMATION: amino acid sequence
;   FEATURE:
;   NAME/KEY: CHAIN
;   LOCATION: (1)..(170)
;   OTHER INFORMATION: fusion protein of tumor necrosis factor alpha and
;   OTHER INFORMATION: affinity tag
;   FEATURE:
;   NAME/KEY: MISC_FEATURE
;   LOCATION: (1)..(13)
;   OTHER INFORMATION: Affinity tag Arg-Gly-Ser-His(6)-Gly(3)
;   FEATURE:
;   NAME/KEY: MISC_FEATURE
;   LOCATION: (14)..(170)
;   OTHER INFORMATION: mature tumor necrosis factor alpha
US-10-490-953-35

  Query Match             96.4%;  Score 777;  DB 8;  Length 170;
  Best Local Similarity   96.2%;  Pred. No. 8.9e-76;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| |||||||||||||||||||||||||||||||||||||||||||||||||
Db         14 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 73

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| |||||||||||||||||||||||:||||||| ||||||||||||| ||||||||
Db         74 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 133

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||||||||||||||||||||||||
Db        134 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 170


RESULT 13
US-11-082-544-8
; Sequence 8, Application US/11082544
; Publication No. US20050249706A1
; GENERAL INFORMATION:
;  APPLICANT: Bermudes, G.
;  APPLICANT:  King, I.
;  APPLICANT:  Clairmont, C.
;  APPLICANT:  Lin, S.
;  APPLICANT:  Belcourt, M.
;  TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR
;  TITLE OF INVENTION:  TUMOR-TARGETED DELIVERY OF EFFECTOR MOLECULES
;  FILE REFERENCE: 8002-059
;  CURRENT APPLICATION NUMBER: US/11/082,544
;  CURRENT FILING DATE:  2005-03-17
;  PRIOR APPLICATION NUMBER: US/09/645,415
;  PRIOR FILING DATE: 2000-08-24
;  PRIOR APPLICATION NUMBER: 60/157,581
;  PRIOR FILING DATE: 1999-10-04
;  PRIOR APPLICATION NUMBER: 60/157,637
;  PRIOR FILING DATE: 1999-10-04
;  NUMBER OF SEQ ID NOS: 61
;  SOFTWARE: FastSEQ for Windows Version 3.0
; SEQ ID NO 8
;   LENGTH: 180
;   TYPE: PRT
;   ORGANISM: Artificial Sequence
;   FEATURE:
;   OTHER INFORMATION: Fusion construct
US-11-082-544-8

  Query Match             96.4%;  Score 777;  DB 11;  Length 180;
  Best Local Similarity   96.2%;  Pred. No. 9.5e-76;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| |||||||||||||||||||||||||||||||||||||||||||||||||
Db         24 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 83

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| |||||||||||||||||||||||:||||||| ||||||||||||| ||||||||
Db         84 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 143

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              ||||||| ||||||||||||||||||||||||||||||
Db        144 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 180


RESULT 14
US-10-523-328-1
; Sequence 1, Application US/10523328
; Publication No. US20060078944A1
; GENERAL INFORMATION:
;  APPLICANT: Kuai, Jun
;  APPLICANT:  Lin, Lih-Ling
;  APPLICANT:  Wooters, Joseph L.
;  APPLICANT:  Nickbarg, Elliot
;  TITLE OF INVENTION: METHODS AND REAGENTS RELATING TO INFLAMMATION AND APOPTOSIS
;  FILE REFERENCE: WYTH-P01-001
;  CURRENT APPLICATION NUMBER: US/10/523,328
;  CURRENT FILING DATE:  2005-02-01
;  PRIOR APPLICATION NUMBER: 60/400,410
;  PRIOR FILING DATE: 2002-08-01
;  NUMBER OF SEQ ID NOS: 20
;  SOFTWARE: PatentIn version 3.2
; SEQ ID NO 1
;   LENGTH: 233
;   TYPE: PRT
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;   ORGANISM: Homo sapiens
US-10-523-328-1

  Query Match             96.4%;  Score 777;  DB 9;  Length 233;
  Best Local Similarity   96.2%;  Pred. No. 1.3e-75;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||
Db         77 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 136

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| |||||||||||||||||||||||:||||||| |||||||||||| ||||||||
Db        137 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 196

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
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Db        197 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 233


RESULT 15
US-11-246-387-8
; Sequence 8, Application US/11246387
; Publication No. US20060078994A1
; GENERAL INFORMATION:
;  APPLICANT: Argos Therapeutics, Inc.
;  APPLICANT:  Kirin Beer Kabushiki Kaisha
;  APPLICANT:  Healey, Don
;  APPLICANT:  Tcherepanova, Irina
;  APPLICANT:  Adams, Melissa
;  APPLICANT:  Hinohara, Atsushi
;  TITLE OF INVENTION: MATURE DENDRITIC CELL COMPOSITIONS AND METHODS FOR CULTURING SAME
;  FILE REFERENCE: MER030
;  CURRENT APPLICATION NUMBER: US/11/246,387
;  CURRENT FILING DATE:  2005-10-07
;  PRIOR APPLICATION NUMBER: US 60/522,512
;  PRIOR FILING DATE: 2004-10-07
;  NUMBER OF SEQ ID NOS: 26
;  SOFTWARE: PatentIn version 3.3
; SEQ ID NO 8
;   LENGTH: 233
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-11-246-387-8

  Query Match             96.4%;  Score 777;  DB 11;  Length 233;
  Best Local Similarity   96.2%;  Pred. No. 1.3e-75;
  Matches  151;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 VRSSSRTPSDAPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60
              |||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||
Db         77 VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 136

Qy         61 QVLFSGQGCPSTHVLLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
              |||| |||||||||||||||||||||||:||||||| |||||||||||| ||||||||
Db        137 QVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYL 196

Qy        121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
              |||||||| ||||||||||||||||||||||||||||
Db        197 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 233


Search completed: May  5, 2006, 11:28:32
Job time : 10.75 secs
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